Final Report
Environmental Priorities Initiative
Preliminary Assessment
Douglas & Lomason Company
Red Oak, Iowa
CERCLIS: IAD041107871
TDD #F-07-9002-006 PAN #FIA0261RA
Site #T45 Project #001
Prepared by: E & E/FIT for Region VII EPA
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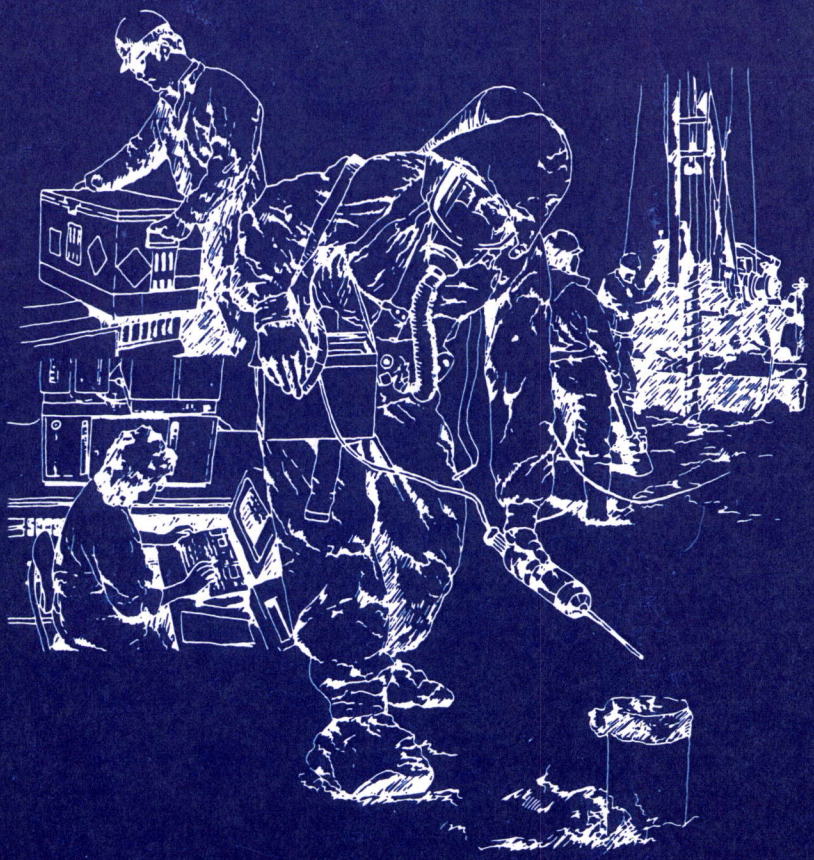
Date: March 8, 1991

EPA

HAZARDOUS
SITE
EVALUATION
DIVISION

Field Investigation Team Zone II



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SECTION 1: INTRODUCTION

As part of the U.S. Environmental Protection Agency's (EPA) Environmental Priorities Initiative (EPI) program, EPA has requested Ecology and Environment, Inc., Field Investigation Team (E & E/FIT) conduct an EPI Preliminary Assessment (PA) of Douglas & Lomason Company, located at 2700 North Broadway in Red Oak, Iowa.

The EPI program integrates the Resource Conservation and Recovery Act (RCRA), the Hazardous and Solid Waste Amendments (HSWA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the Superfund Amendments and Reauthorization Act (SARA) in order to set priorities for cleanup of the most environmentally significant sites first. This EPI PA is essentially equivalent to RCRA's Preliminary Review/Visual Site Inspection (PR/VSI) and identifies potential or actual releases at the facility and recommends interim measures, if appropriate.

This report discusses information obtained from EPA RCRA files, special requests from the facility, and general background research on the physical and cultural setting, and describes each regulated and non-regulated solid waste management unit (SWMU). Observations obtained from the on-site reconnaissance conducted by E & E/FIT on May 8, 1990, are also included. Photographic documentation is included as Appendix A. EPA Preliminary Assessment Form 2070-12 is included as Appendix B.

SECTION 2: SITE LOCATION AND DESCRIPTION

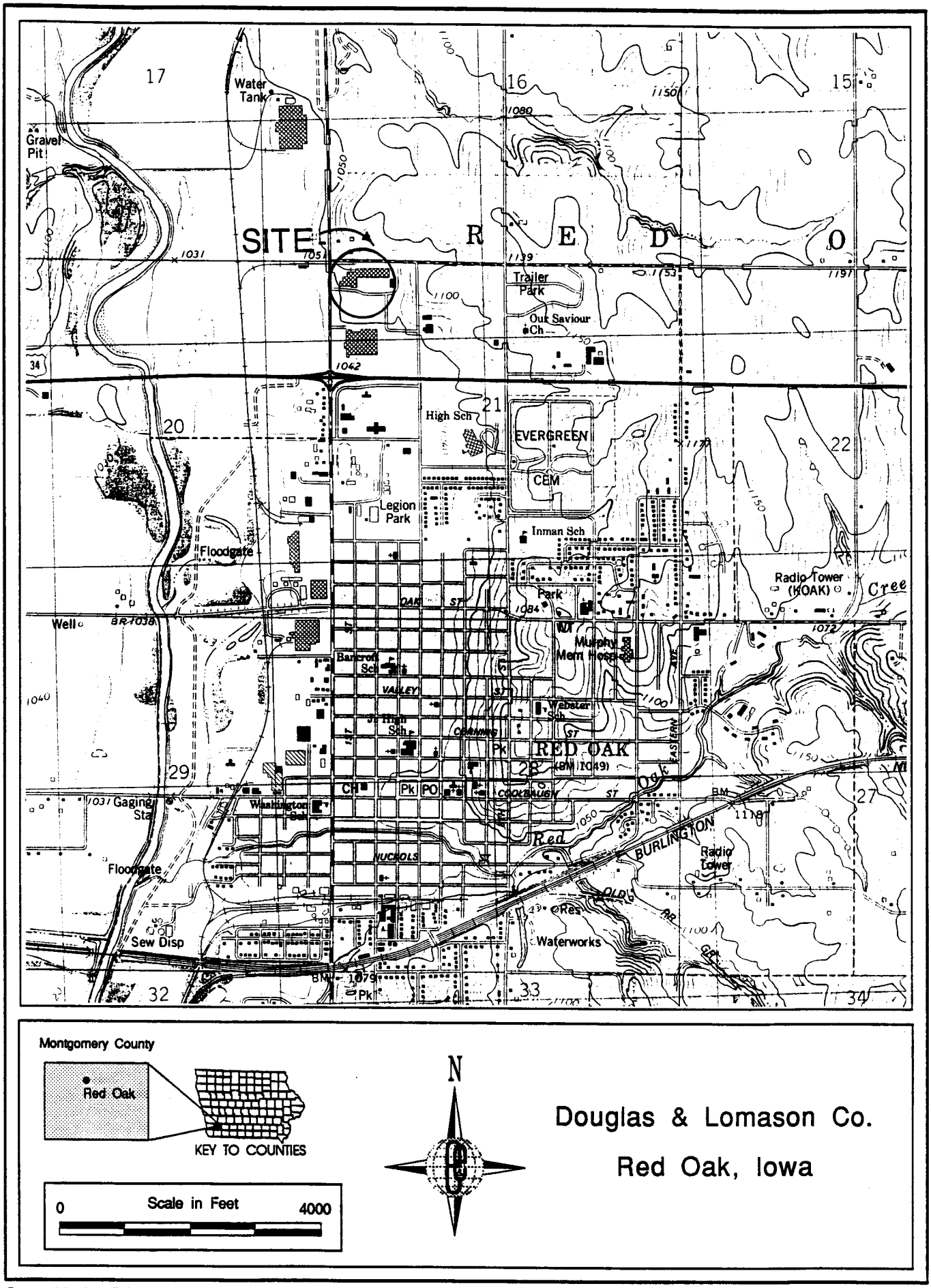
2.1 SITE LOCATION

The Douglas & Lomason (D & L) site is located at 2700 North Broadway in Red Oak, Iowa (Figure 2-1). The facility is located at the north-northwest corner of the city limits; its boundary is approximately 2,500 feet east of the East Nishnabotna River. The site is situated on the eastern edge of the floodplain of the river. The Land Management designation is a portion of N 1/2, NW 1/4, NW 1/4, Sec. 21, T. 72 N,. R. 38 W., Red Oak North Quadrangle, Montgomery County, Iowa. The coordinates of the center of the facility are 41° 01′ 48.9" N latitude and 95° 13′ 53.2" W longitude.

Red Oak, which is in central Montgomery County, has a population of approximately 6,700 (Johnson 1990). Red Oak is the county seat. Montgomery County is located in southwestern Iowa (Figure 2-1). Outside the city limits, the area is sparsely populated rural and agricultural land. The physiography of the area is characterized by rolling hills consisting of a mantle of glacial deposits underlain by either Pennsylvanian-age bedrock or Cretaceous-age sediments. Water supplies in the area are obtained from ground water -- mainly from the Cretaceous-age Dakota Sandstone, but lesser amounts are obtained from glacial and alluvial deposits (Section 4).

2.2 SITE DESCRIPTION

The facility manufactures automobile seat frames and seat frame adjusters. D & L operates three shifts a day, five days per week, and employs 600 to 650 persons. Plant operations consist primarily of forming metal, using punches, tubing benders, and welding; and heat treating metal to form springs and other seat frame parts. After being formed and cleaned, the metal parts are finished by one of three methods: painted black; plated with zinc phosphate (a black, corrosion resistant surface); or a latex solution is deposited on the metal using an autophoretic process.



Prepared by Lee Robertson
Ecology & Environment/FIT June 1990

Waste Site Tracking #IA0261
Source: Red Oak N., IA 7.5'Quad. Rev. 78

Figure 2-1: SITE LOCATION

The plant consists of a large manufacturing building that encompasses approximately 5 acres and includes an office area and a connected painting building (Appendix A; Photos 1, 2, and 6) (Figures 2-2 and 2-3). Monorails (Photo 9) are used to move parts through the painting building and through the autophoretic unit. The zinc phosphate plating system has a separate conveyer system to move parts from vat to vat (Photos 16 and 17). Only two storage tanks are reported to exist at this facility and both are aboveground: a mineral spirits tank (Photo 35) and a propane tank (Photo 3).

A wastewater treatment system treats wastes from the zinc phosphate plating and autophoretic processes (Section 3.2). The resultant solid wastes, as well as wastes from other processes, are containerized on site for off-site disposal or recycling. No on-site disposal of wastes is reported to have ever occurred at this facility.

The only permit held by D & L is for discharge of treated wastewater to the municipal sewer system (Appendix C). The City, in turn, has an NPDES permit for its discharge to the East Nishnabotna River. Several Special Waste Authorizations (SWAs) have been granted over the years for disposal of wastes in the county landfill (Appendix D). However, the last of these SWAs was recently revoked, due to State regulations. All wastes needing off-site disposal now are transported to Beatty, Nevada, by U.S. Ecology.

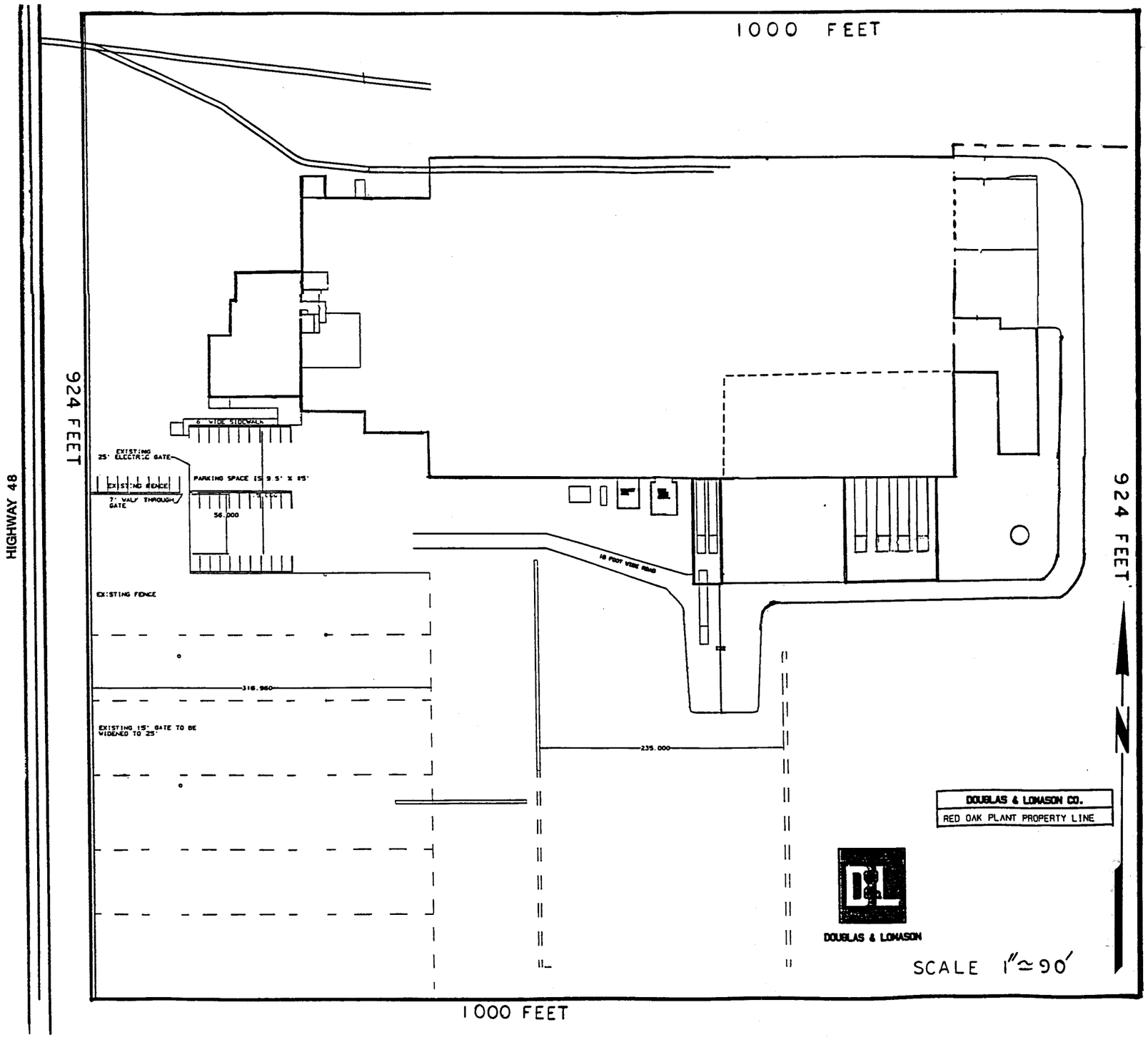
The facility is not entirely fenced, though all exterior storage areas are fenced. A 24-hour security guard is present (D & L 1990d). Drainage from the facility mainly infiltrates into the subsurface; no storm water sewers exist. Drainage culverts occur immediately downgradient of the site on the north and west (Photo 5). Runoff from the southern portion of the site flows onto the adjacent facility. The southern half of the site is occupied by a graveled parking lot on the west and a metal parts bulk storage area on the east. Most areas adjacent to the building are graveled; except for the front lawn. Contiguous properties are either agricultural or commercial/industrial.

DOUGLAS AND LOMASON COMPANY

RED OAK, IOWA

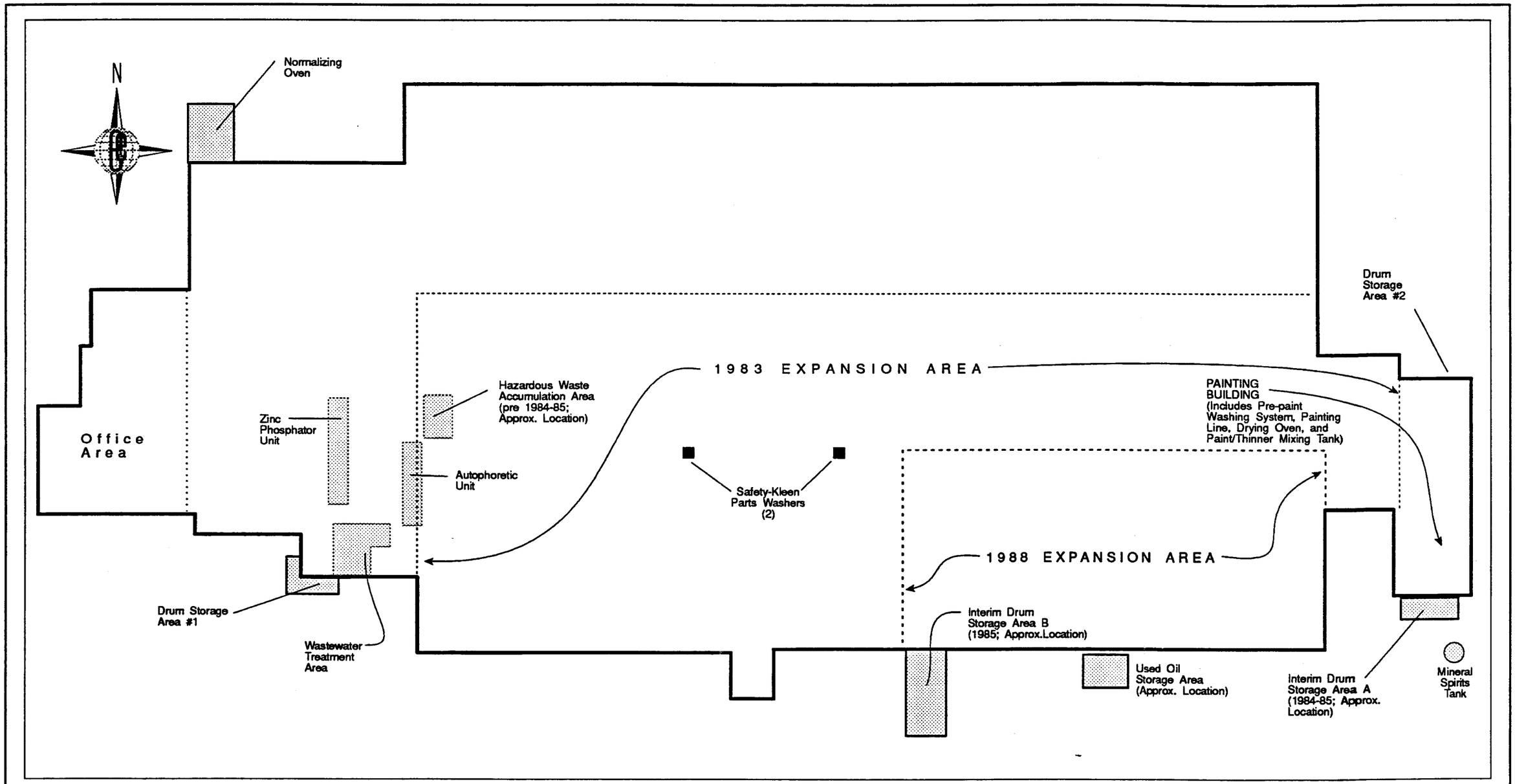
SITE LAYOUT AND PROPERTY LINES

(SOME AREAS PRESENTLY UNDER CONSTRUCTION)



WASTE SITE TRACKING # IA0261
E&E/FIT JULY, 1990
SOURCE: D & L 1990a

FIGURE 2-2



Douglas & Lomason Company

Red Oak, Iowa

Prepared by Lee Robertson
Ecology & Environment/RT June 1990

Waste Site Tracking #IA0261
Source: Modified from D & L 1990 a,b

Figure 2-3: Facility Layout with SWMU Locations

2.3 SITE CONTACTS

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SECTION 3: SITE BACKGROUND

3.1 SITE HISTORY

The D & L facility began operations on a small scale in 1968, manufacturing only seat frames. The facility building underwent major expansion in 1983 and more minor expansion in 1988 (Figure 2-3). The wastewater treatment facility has been expanded to accommodate the increased volume of wastewater generated by production increases. The facility began making seat adjusters in 1987-88. In early 1989, the zinc plating process was eliminated and replaced by the autophoretic process; the same vat tank structure is used (E & E 1990). As a result of this change, the facility no longer uses chromium in its processes.

Regulatory history began in 1980 when D & L filed a Part A permit application for interim status as a Treatment, Storage, and Disposal Facility (TSDF). The notification was subsequently amended to account for changes in EPA regulations, and errors made on the Part A by D & L. The application covered two treatment tanks with capacities of 1,200 and 500 gallons/day, and a 500-gallon container storage area. In 1983, the Iowa Department of Water, Air, and Waste Management (IDWAWM; now Iowa Department of Natural Resources [IDNR]) granted termination of this Part A hazardous waste permit, after waiving closure requirements.

The status of D & L is that of a small quantity generator that requires a Closure Plan for past TSDF operations. In 1985 IDWAWM notified D & L that EPA mandated a closure plan, though the State earlier had waived this requirement. D & L submitted a closure plan in 1985 that was deemed to be inadequate. EPA asserted on several occasions that a closure plan was necessary. The opinion of D & L is that earlier decisions regarding closure were made in error and D & L representatives have failed to take significant steps toward completing an acceptable Closure Plan. At a March 1, 1990, meeting at EPA, the Agency's position was made clear and D & L was notified of the upcoming FIT EPI PA work.

3.2 SUMMARY OF REGULATORY ACTIONS

The State of Iowa has conducted several inspections at this facility. The initial inspection was conducted jointly by EPA for Iowa Department of Environmental Quality (IDEQ) in 1981. EPA's RCRA branch has conducted two inspections at D & L, one in 1987 and one in 1988. Significant regulatory findings regarding hazardous waste handling practices are summarized below.

Date	Action
7/29/81	Joint EPA/IDEQ Inspection report notes trivalent chromium hydroxide filtrate sludge is considered hazardous because of chromium content.
11/19/81	D & L tests filtrate sludge. Results: E.P. Tox = 196 mg/L Total chromium = 2.6 percent Total zinc = 5.1 percent Total solids = 33.8 percent
4/20/82	D & L shipped 7,350 pounds (3,334 kg) filtrate sludge that was stored >90 days; accumulated since start-up of plating wastewater treatment operation.
6/9/82	Special Waste Authorization Application: Paint sludge has flashpoint of 60°F. Filtrate sludge is E.P. Toxic for chromium at 196 mg/L.
9/17/82	D & L shipped 3,850 pounds (1,746 kg) filtrate sludge (stored >90 days), and 200 pounds (91 kg) paint sludge (stored >90 days); or 4,430 pounds (2,009 kg) filtrate sludge shipment (stored >90 days) to Black Hawk Hazardous Waste Landfill of Landfill Services Corp. in Reinback, Iowa.
9/22/82	Special Waste Authorization Application of June 9, 1982, approved; #6901092282-2. Monthly averages of 700 pounds of filtrate sludge (1,400 pounds maximum) and 200 pounds of paint sludge (400 pounds maximum) to Montgomery County Sanitary Landfill.
2/14/83	IDEQ terminated D & L's interim status.
11/9/84	Special Waste Authorization voided due to new regulations regarding Iowa landfills and any wastes defined in 40 CFR 216 Subparts C & D.
3/5/85	IDWAWM Inspection noted approximately 47 drums of D001 and F006 (Section 5.5) wastes stored on muddy gravel. Some were leaking and one was perforated by rust (Interim Storage Area A).

3/26/85	IDWAWM Follow-up Inspection noted drums repacked and neatly stored in graveled area (Interim Storage Area B).
4/19/85	IDWAWM informed D & L of need for closure plan to officially terminate interim status as TSDF, according to EPA regulations.
6/14/85	D & L submitted closure plan for two interim storage areas (A and B).
7/30/85	Letter from D & L attorneys states that on 6/26/85 a partial shipment of accumulated wastes from Interim Storage Area B was made to U.S. Ecology in Beatty, Nevada. Wastes exceeded 1,000-kg and 90-day storage limits. Remainder of accumulated wastes expected to be shipped within two weeks.
6/27/85	IDWAWM notified D & L that closure plan was inadequate.
1985 Biennial Report	D & L reports non-hazardous alkaline cleaners have been segregated from the hazardous chromium stream; as a result rinse water streams were reduced in volume.
8/5/87	RCRA Inspection cites 18 notice of violations (NOVs) including 14 interim status NOVs. Findings included: ° Significant oil contamination in used oil storage area. ° Mineral spirits leakage from underground line at inlet to paint building. ° Washer sludge residue (two and three drums every four months); not E.P. Toxic and disposal at Montgomery County Sanitary Landfill under SWA #690107148601 issued by State of Iowa. ° Assumes filtrate sludge not a F006 waste due to interpretive rule issued by EPA on December 2, 1986 (CFR Page 43350) and because previous (1984+) analytical results indicate the waste is no longer E.P. Toxic. Therefore, facility can be correctly classified as small quantity generator of hazardous waste, but must meet closure requirements for their previous interim status.
9/10/87	D & L memo to EPA includes statement mineral spirits spill was cleaned up by excavating seven drums of soil and collecting a composite of three soil samples analyzed for E.P. Toxicity. (Note: E.P. Toxicity tests would not detect mineral spirits.)
11/29/88	RCRA Inspection noting seven NOVs; violations pursuant to interim status were not cited. Findings include: ° Leak in basement of wastewater treatment area at time of inspection. This leak was reportedly post treatment fluids. A leak in May or June 1988 was pretreatment fluids. Reportedly, the waste was sampled and consid-

ered non-hazardous, but no analyses were relinquished.
° One drum of excavated soil from mineral spirits leak in 1987 was still present on site.

12/4/89 EPA memo to D & L states they have 45 days to complete a revised closure plan. Extensions was later granted.

3/1/90 Meeting between EPA and D & L in which the Agency restated its position that D & L must comply with closure requirements and informed D & L of upcoming (FIT EPI PA) site work. D & L indicated they are viewing their option of redoing the closure plan or trying litigation.

3.3 WASTES AND GENERAL WASTE MANAGEMENT PRACTICES

3.3.1 Current Wastes

The main chemical products D & L uses in painting, plating, and autophoretic processes consist of:

° Black Paint (D001; flash point of 20°F) constituents include xylene, toluene, and mineral spirits;

° Mineral Spirits (D001; flash point of 101°F) as paint thinner;

° Petroleum naphtha (mineral spirits, D001; flash point of 40°F to 68°F) in Safety-Kleen parts washers;

° Sulfuric Acid used in zinc phosphator and to adjust pH;

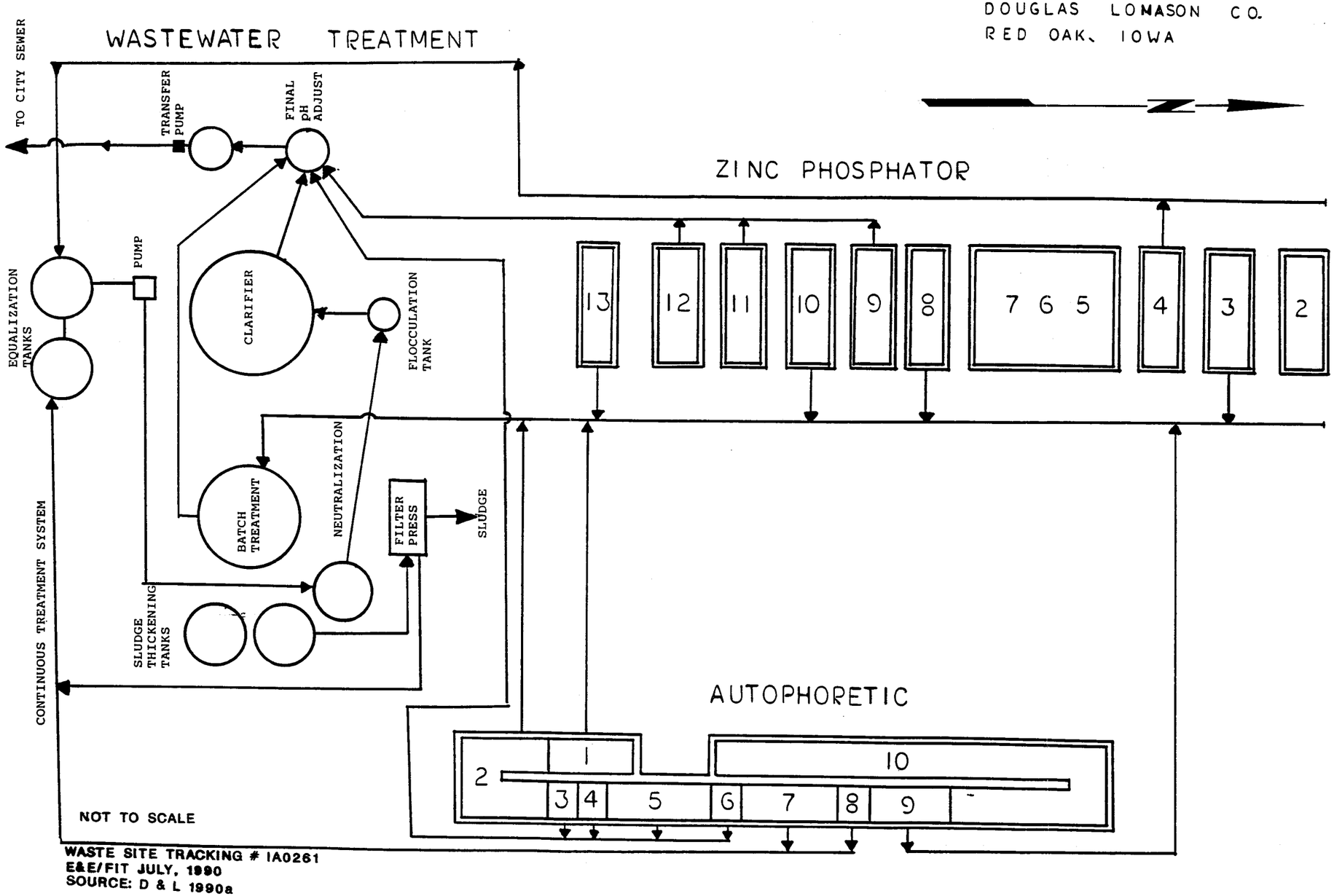
° Hydrofluoric Acid (3 to 10 percent) used in autophoretic unit;

° Alkaline cleaners - various; mainly containing sodium or potassium hydroxides and phosphates;

° Zinc Phosphate Replenisher - contains zinc phosphate, zinc nitrate, and nitric acid.

These compounds may be found in the various waste streams. Material Safety Data Sheets (MSDSs) for these and other chemicals used in the finishing processes are included as Appendices E, F, and G.

Figure 3-1 is a schematic of wastewater flow from the zinc phosphator and autophoretic units. Wastewater is subject to series of treatment methods: neutralization, precipitation, colloidal formation, flocculation, setting of solids, and filter pressing. Two waste media are produced; treated wastewater to be discharged to the municipal sewer system, and filter press sludge. This discharge is permitted by the State of Iowa and the City samples the discharge weekly (E & E 1990a).



SCHEMATIC OF THE WASTEWATER TREATMENT FOR THE AUTOPHORETIC AND ZINC PHOSPHATOR UNITS

FIGURE 3-1

The permit is included as Appendix C. The resultant sludge is described by D & L as carbon and zinc sludge. Analytical data from a recent analysis is included as Appendix H. The sludge contains no solvents and very low concentration of some extraction procedure (E.P.) toxicity, and proposed toxicity characteristic leaching procedure (TCLP) compounds. The filter press sludge is collected in small roll-off bins (Photo 26), transferred to 55-gallon drums, and transported off site by U.S. Ecology for disposal in Beatty, Nevada. Approximately 1,000 to 1,500 pounds of sludge is produced each week (E & E 1990a). Sludge from tank 5-6-7 (zinc phosphate solution) of the zinc phosphator unit is cleaned out approximately once per month and shoveled directly into drums (Photo 31) for off-site disposal in Beatty, Nevada, by U.S. Ecology. See Appendix I for results of a recent analysis of the zinc phosphate sludge.

All drummed wastes are now transported off site by U.S. Ecology for disposal in Beatty, Nevada (Appendix J). Drummed wastes are:

- Sludge from the painting line spray washer system which results from cleaning grime and oil from metal parts to be painted;
- Solid paint wastes resulting from chipping dried paint off metal surfaces;
- Solid paint waste that collects on absorbent pads placed beneath the painting area to catch overspray; and
- Liquid paint waste resulting from the cleaning of sludge from the mixing tank.

The mixing tank is cleaned approximately once per year and generates approximately one-half 55-gallon drum each time (E & E 1990a). The annual cleaning of the painting system includes peeling or scraping dried paint from the "flow-coater" walls. The absorbent paper beneath the drip lines is replaced weekly. Dried paint wastes is removed daily from various parts of the painting system to reduce build-up. The dried paint is placed in a drum inside the painting building. When this drum becomes full, it is placed outside in the exterior paint waste drum storage area. This area is described in detail in Section 5-9 (D & L 1990d).

Two waste streams are recycled by outside facilities. The two Safety-Kleen parts washers are serviced monthly by Safety-Kleen, and the petroleum naphtha (mineral spirits) is transported off site. About 150

pounds of spent petroleum naphtha are generated monthly (D & L 1990d). Used oil, generated mainly from maintenance activities such as changing fluid in forklifts and hydraulic press transmissions, is recycled by Capitol Oil of Omaha, Nebraska, or by Safety-Kleen (Photo 34). Capitol Oil will pickup used oil if the water content is not too high. Recent manifests for off-site shipment of these two waste streams are included as Appendix K.

Weekly inspections are conducted for all current waste handling areas. Inspectors check for leaks or spills, assure that all drum lids and drums are secure, and confirm that all drums are properly arranged (D & L 1990d).

3.3.2 Former Wastes

Several major changes have occurred in the type of filter press sludge produced at D & L. Before use of the autophoretic system commenced in early 1989, a zinc plating process using hexavalent chromium was used (Appendix L). This waste stream underwent conversion of hexavalent to trivalent chromium by lowering the pH to 2.5, adding sodium bisulfate, and raising the pH to 9.5. Since 1984, analytical results of the resultant trivalent chromium hydroxide sludge were not E.P. Toxic for chromium. However, during 1981 to 1982, an analyses indicated E.P. Toxicity results for chromium as high as 196 mg/L, total chromium at 2.6 percent, and zinc at 5.1 percent (D & L 1981). The reason for the change in chromium content over time is not documented. The trivalent chromium hydroxide was disposed of either in the county landfill under a SWA, or was transported to Beatty, Nevada, by U.S. Ecology. This sludge is among the wastes that were stored in Interim Storage Areas A and B (Section 5).

Before Fall 1986, a chrome-based solution was also used in the zinc phosphator unit. This would have increased the amount of chromium in the wastewaters. Also during this time frame, the paint thinner was switched from a xylene/toluene mixture to mineral spirits.

SECTION 4: ENVIRONMENTAL SETTING

4.1 TOPOGRAPHY AND DRAINAGE

On-site drainage infiltrates through the permeable soils before moving off site. Flow from the southern portion of the property flows off site; no process or waste storage areas are located near the southern property line (Figures 2-2 and 2-3). The facility is serviced only by sanitary sewers; no storm sewers are present.

The site is located on the edge of the floodplain and was leveled for industrial use. The facility slope is generally flat, except for drainage culverts and the front lawn. The southerly flowing East Nishnabotna River is situated approximately 2,500 feet west of the facility. This river is perennial, but typically very shallow. The river is not large enough to support any significant surface water intakes, but is utilized for recreation which includes fishing and small craft boating (E & E 1985a). No sensitive environments or endangered species are known to exist within one mile of the site (E & E 1985b). The site is above the 100-year flood elevation of 1,039 feet (IDWAWM 1985b).

4.2 SOILS

The on-site soils are mapped as loamy Orthents (USDA 1990) which indicates that the soils have been leveled, reshaped, or transported during development of this industrial site. They have been altered to such an extent that the soil series cannot be identified. The dominant soil material is silt loam and silty clay loam. In some areas so much of the soil material has been removed that calcareous silt loam is exposed. It appears that considerable soil has been removed from the northeast corner of the site because adjacent fields are several feet high in elevation (Photos 1 and 2). Through an on-site investigation is needed before any final conclusions can be made about the soil properties present, the characteristics of surrounding soils indicate that

on-site soils probably are moderately slow to moderately permeable and moderately well drained.

4.3 STRATIGRAPHY AND GROUND WATER

The general sequence of near subsurface deposits in the Red Oak vicinity and at the site is, in descending order: Pleistocene-age glacial drift; Cretaceous-age Dakota Sandstone; and Pennsylvanian-age alternating limestones and shales (IGS 1912). Alluvium is also present in the stream valleys (Table 4-1). Thicknesses of the unconsolidated deposits on site can only be estimated, as the nearest available borehole log is for a test hole located 1 mile east of the site, on the uplands approximately 150 feet topographically higher than the site. Because the site is located at the edge of the floodplain, it is estimated that the unconsolidated deposits on site are less than 50 feet thick; this is the approximate maximum thickness of alluvium in the area (E & E 1985c). A thin layer of alluvium may occur on the western part of the site. The boundary of the floodplain and, therefore, the boundary of the alluvial deposits, has been altered and made difficult to distinguish by cut-and-fill activities. Pennsylvanian-age bedrock underlies the unconsolidated deposits at the site.

The unconsolidated deposits can be more accurately described in areas away from the site. Alluvium occurs within the river valley, and glacial deposits and Dakota Sandstone occur on the uplands. The alluvial sediments typically coarsen with depth, from silty clay near the surface, to sands, and to sand with gravel at the base of the deposit (E & E 1985c). Residents who inhabit floodplain areas, and those who are outside municipal service lines, utilize alluvial deposits for their water supply. The glacial drift consists of till overlain by loess. The lower portion of the loess generally consists of fine sand, and sands and gravels typically occur at or near the base of the drift. These deposits often are used to produce water for domestic wells. The most prolific aquifer, where found on the uplands, is the soft, porous Dakota Sandstone. Many area domestic wells and all municipal wells in Red Oak utilize the Dakota sandstone aquifer.

The closest well to D & L is a domestic well located 4,000 feet northeast (upgradient) of the painting building in the SW 1/4, NW 1/4,

SW 1/4, NE 1/4, Sec. 16, T. 72 N., R. 38 W. This well is reported to be 105 feet deep (E & E 1990a) and probably draws from the Dakota Sandstone. Red Oak has six municipal wells which occur east-northeast to south-southeast, at distances 1.82 to 2.37 miles from the painting building (E & E 1985d). One well was recently drilled 1/4 mile north of well #4 (E & E 1990a). Regional ground water flow is assumed to be south-southwest, parallel to stream flow. None of the municipal wells are directly downgradient of the site. Municipal water is blended and chlorinated before distribution (E & E 1985e). All areas within the city limits and two areas outside city limits north on Highway 48 and west on Old Highway 34 are serviced by the municipal water supply (E & E 1985d).

Based on proximity to the floodplain, ground water on site is expected to be relatively shallow (probably less than 20 feet). Ground water in the unconsolidated aquifers is assumed to be hydraulically connected to the Pennsylvanian-age aquifer. This Pennsylvanian-age aquifer consists of rocks of the Missourian Series and is of poor volume (Table 4-1). These rocks are underlain by Des Moines Series rocks which are an aquitard and dry in this area (IGS 1912).

Table 4-1
General Stratigraphy
Red Oak, Iowa

System	Series	Group	Formation	Hydrologic Classification	Thickness (ft)
Quaternary	Pleistocene	Holocene	Recent Alluvium	Aquifer (good)	0-50
		Kansan & Nebraskan	Various (loess and till)	Aquifer	0-120
Cretaceous	N/A	Colorado	Dakota	Aquifer (very good)	0-130
Pennsylvanian	Missouri	Kansas City	Various	Aquifer (poor)	~450
		Pleasanton			
	Des Moines	Marmaton	Various	Aquitard	~425
		Cherokee			

Sources: E & E 1985e, IGS 1912, IGS 1980.
Note: Thicknesses of Pennsylvanian-age units are gross estimates.

SECTION 5: DESCRIPTION OF INDIVIDUAL SOLID WASTE MANAGEMENT UNITS

5.1 WASTEWATER TREATMENT FACILITIES

5.1.1 Information Summary

Unit Description

The wastewater treatment facilities treat all wastes from the zinc phosphator plating system with the exception of sludge from the zinc phosphate vat (tank 5-6-7), and the autophoretic unit (Figure 2-3). Figure 3-1 is a schematic which shows both continuous and batch treatment waste streams. A description of the tanks of the zinc phosphator is contained in Appendix F, and the autophoretic units are described in Appendix G. The tanks associated with this SWMU are constructed of steel; some are lined with a synthetic material to buffer corrosive reactivity. Major components of the wastewater treatment system consist of:

- All wastewater discharges from the zinc phosphator and autophoretic units;
- Batch treatment tank, 3,000-gallon capacity, #304 stainless steel (Photo 30);
- Two equalization tanks, 1,500-gallon capacity, steel (Photo 28);
- Neutralization/precipitation tank, 1,000-gallon capacity, polyethylene (Photo 22);
- Flocculation tank, 400 gallon capacity, polyethylene (Photos 24, 25, and 26);
- Clarifier tank, 4,500-gallon capacity, carbon steel (Photo 23);
- Two sludge thickening tanks, 1,500-gallon capacity, polyethylene (Photos 26 and 27);
- Filter press with roll-off bin, bin capacity: 42.5 inches L X 25.75 inches W X 24.75 inches H, cardboard (Photo 26);
- Municipal sewer system permitted discharge (Appendix C); and
- Floor grates (Photo 15) and a basement sump retrieve spills inside the plant and processes then via the wastewater treatment system.

The batch treatment tank, two equalization tanks, and sump are located in the basement of the facility. Other components of wastewater treatment are located above grade as shown in the photographs. Although two of the wastewater treatment tanks were listed on the Part A permit, they are now considered exempt from hazardous waste treatment regulations because they constitute open tank treatment under a pretreatment agreement (Section 3.2.1). Therefore, this unit is not RCRA-regulated.

The wastewater treatment consists of four systems which treat wastewater from the zinc phosphator and autophoretic systems:

1) Continuous Zinc Treatment System: consists of equalization, neutralization/precipitation, flocculation, and clarification. Water is discharged from the clarifier through the final pH adjustment system to the City sewer. Sludge is removed from the clarifier to the sludge thickening tanks and dewatered by the filter press;

2) Batch Treatment System: consists of a 3,000-gallon batch treatment tank. Sludge is pumped from this tank to the sludge thickening tank. Treated water is discharged through the final pH adjustment system to the city sewer;

3) Continuous Final pH Adjustment: Treats rinse water overflows from tanks 3, 4, 5, and 6 of the autophoretic system and tanks 12, 11, and 9 of the phosphator. Also, monitors and adjusts discharges from batch and continuous zinc treatment systems if necessary; and

4) Sludge Dewatering System: consists of two sludge thickening tanks and a filter press. Sludge from the continuous treatment system and the batch treatment system is processed through this system.

Additives to the system include sodium hydroxide (NaOH) to form colloids, iron chloride for coagulation to form flocculi, a polymer (Novamax WMA-1055) to form still larger particles, calcium hydroxide to facilitate settling of sludge, and NaOH and sulfuric acid for final pH adjustments.

Dates of Operation

All components of this SWMU are currently operational. The neutralization/precipitation, flocculation, and clarifier tanks were added in early 1989 as part of the system upgrade. The batch treatment tank was

added in 1983, when the zinc phosphator unit was installed. The autophoretic unit was modified in early 1989 from the previous zinc plating system.

The earliest available D & L records indicate an agreement for wastewater discharge with the City in the early 1970s. The earliest permit available is dated March 23, 1979 (D & L 1990d).

Wastes Managed

No spent solvents and only low concentrations (Appendix H) of EP and TCLP metals are contained in these waste streams. Treated wastewater is discharged as a single point release to the municipal sewer system, which is monitored weekly by the City of Red Oak (Appendix P). See Section 3.2 for a description of general waste streams and Appendices F and G for MSDS of chemical products which may remain in these waste streams. Parameters of the wastewater permit consist of a maximum hourly flow of 5,250 gallons; total suspended solids limit of 100 pounds per day; pH of 6 to 9; and maximum zinc and chromium concentrations of 2.61 and 2.77 mg/L respectively.

The sludge produced by the filter press is considered a carbon and zinc sludge. (See Appendix H for recent analytical results.) The sludge is collected in a small cardboard roll-off bin and drummed for off-site disposal (Section 3.2). These drums are stored in Drum Storage Area #1 (Photo 31). The SWA (Appendix D) recently expired and this waste is currently transported by U.S. Ecology to Beatty, Nevada (Appendix J).

Release Controls

During the VSI, all components of this system appeared to be in excellent working order, with no evidence of spills or leaks. The basement area of the wastewater treatment facilities was not observed during the VSI. According to D & L, any spills in the basement would be retrieved via a sump and the waste recirculated back through the system. All floor drains were reported to outlet to the wastewater treatment facilities.

Present information indicates a low potential for a release from this SWMU into the environment.

History of Releases

Available file information indicates a post-treatment leak in the basement area of this SWMU, which was noted during a 1988 RCRA inspection. This release was the result of a break in the sewer line that exits the plant. Also, in May or June 1989, a pretreatment leak occurred in the basement area, due to a leak in a wastewater treatment tank (EPA 1988). The liquid was pumped into another tank and the sludge was shoveled into drums. The sludge was subsequently tested and found to be non-hazardous.

According to a technician at the City of Red Oak Wastewater Treatment Plant, D & L periodically (about once every other month) exceeds the limit for total zinc and about two years ago frequently exceeded the total chromium limit (E & E 1990b). The technician said that the City requires D & L to monitor the waste stream daily, so that these problems can be caught and corrected immediately.

5.1.2 Further Information Needs

None noted at this time.

5.2 ZINC PHOSPHATE TANK 5-6-7

5.2.1 Information Summary

Unit Description

This steel tank is 93.5 inches long, 119 inches wide, and 46 inches tall. The tank contains the zinc phosphate bath where this anti-corrosive black zinc coating is applied to the metal parts. The MSDS for this compound is included as Appendix F. On a monthly basis the sludge is shoveled into drums, which are stored in Drum Storage Area #1 before off-site disposal. The tank is in good condition with no leaks noted (Photo 14, 16, and 17). This unit is located aboveground in the manufacturing area (Figure 2-3) and is not RCRA-regulated.

Dates of Operation

This active unit commenced operations in 1983 (D & L 1990d).

Wastes Managed

The sludge produced is termed a zinc phosphate sludge and does not contain any spent solvents, or EP or TCLP compounds in significant concentrations (Appendix I). This waste is handled similarly to the carbon and zinc sludge (Section 5.2; Appendices D and J). Approximately 1,000 pounds or two drums per month is generated (D & L 1990d).

Release Controls

Any spills which may occur in transferring the sludge to drums would be conveyed to the wastewater treatment system via floor drains adjacent to the unit. These drains encircle the unit and flow to secondary containment within the wastewater treatment system. No potential for direct release to the environment is likely from this unit. The unit is inspected at least weekly.

History of Releases

None reported.

5.2.2 Further Information Needs

None noted at this time.

5.3 PAINTING OPERATIONS WASTE PRODUCTION AREA

5.3.1 Information Summary

Unit Description

This SWMU includes a significant part of the area of the painting building -- specifically the painting line, which produces liquid and solid paint wastes; the paint/thinner mixing tank from which sludge is removed annually; and the drying oven. The FIT did not inspect the interior of the painting building during the VSI due to high concentration of volatiles in ambient air (Section 6). The drying oven reportedly vents to the outside of the building via an exhaust fan. The oven is constructed of steel and measures 17.5 feet W X 10 feet H X 145 feet L. Parts are passed through this tunnel-shaped oven, which has a temperature of 375°F, by the monorail system. The mixing tank houses the mixing of paint and thinner in a specific proportion.

The painting line consists of a tunnel arrangement of spray nozzles through which parts pass on a monorail system. The spray nozzles are replaced, rather than cleaned, if they become clogged (EPA 1987). Absorbent pads are placed under the drip lines to catch excess paint overspray (E & E 1990a; E & E 1990d). See also Section 3.2.1.

Dates of Operation

This SWMU have been in use since the mid 1970s (D & L 1990d). The system was modified/expanded in 1983.

Wastes Managed

Mainly solid, dried paint wastes are produced by this unit. These are not considered hazardous waste. Liquid wastes produced include sludge from the annual clean-out of the paint/paint thinner mixing tank, and any off-spec paint. The latest annual clean-out produced 23 drums of dried paint waste (D & L 1990d). No mention is made of any paint/thinner sludge produced during this December 1989 annual clean-out. Twenty-seven drums of off-spec/unusable paint and 12 drums of unusable liquid solvent/paint mixture were produced during the past year (D & L 1990d) (Appendix K). These liquid wastes were classified as D001 due to their ignitability.

Release Controls

An attendant is present during all operation of this unit (D & L 1990d). Any spills would be immediately noted and cleaned up. No other release controls are reported.

History of Releases

None reported, but ambient air is affected by painting operations. Paint odors are noticeable off-site and on-site photo-ionizer reading were noted as being elevated during the VSI (Section 6).

5.3.2 Further Information Needs

The extent of the air release of volatile organics is unknown. This unit was not viewed during the VSI due to the presence of volatile organics in ambient air (Section 6).

5.4 PRE-PAINTING WASHER SYSTEM

5.4.1 Information Summary

Unit Description

This SWMU is located near the northwestern corner of the painting building proper; the unit was not viewed during the VSI (Section 5.3). The pre-painting wash consists of a two-stage process (EPA 1988). The parts to be painted are cleaned initially with a low-foaming alkaline cleaner that contains phosphoric acid. This removes grime and hydraulic oils resulting from punch pressing and other forming processes of the metal. The second step is a cold water rinse. The pH of the wastewater is adjusted before discharge to the sanitary sewer (EPA 1988). Sludge is removed from the unit on a monthly basis and drummed for off-site disposal. Approximately 500 pounds (one drum) is produced monthly. The drums are stored in Drum Storage Area #1.

Dates of Operation

Presumably, this unit has been used since inception of the painting system in the mid-1970s. D & L does not know the exact start-up date for this unit.

Wastes Managed

The sludge produced was found by analyses in 1987 not to be E.P. Toxic; and processes have remained unchanged (EPA 1987). See Appendix N for analytical data. The SWA recently expired on this waste. D & L plans to ship this waste off site via U.S. Ecology approximately twice a year. There were 13 drums of this waste in Drum Storage Area #1 (Section 5.8) during the VSI (E & E 1990).

Release Controls

An attendant is present during operation of this unit. No other release controls are reported.

History of Releases

No spills or other releases have been reported or documented.

5.4.2 Further Information Needs

The dimensions and layout of this unit are unknown.

5.5 INTERIM DRUM STORAGE AREA A

5.5.1 Information Summary

Unit Description

This SWMU is located immediately south of the painting building (Figure 2-3). It is 7 feet by 26 feet in size (D & L 1985) and presently well covered with gravel and unfenced (Photo 38). The area was used for a period of a few months in the 1984 and 1985 time period after D & L's SWA for filter press sludge was revoked due to new state regulations, and before these wastes were repacked and moved to Interim Drum Storage Area B (Section 5.6).

The graveled area was discovered during an 1985 IDWAWM inspection to be muddy and containing several leaking drums. The drums were haphazardly stored, with some on their sides. As a result of the IDWAWM inspection, the wastes were repacked and moved to Interim Storage Area B. The area was subsequently fenced, but no fence is present today and more recent gravel has been applied. See Section 3.1 for more historical information. This unit is considered RCRA-regulated, and a closure plan has been requested.

Dates of Operation

The SWA for these wastes was revoked in November 1984, and wastes were transferred to Area B by March 26, 1985. An interior drum storage area (Section 5.7) was routinely used before Area A; therefore, Area A is assumed to have been used for a period of less than four months.

Wastes Managed

Approximately 47 55-gallon drums of paint waste (D001) and trivalent chromium hydroxide filter sludge (F006) were once stored in this SWMU (IDWAWM 1985a). The F006 wastes were classified as F006 wastes only because of previous confusion on the part of D & L regarding government regulations. Additionally, the filter press sludge was found no longer to be E.P. Toxic for chromium in 1984, though 1981 results

indicated leachable chromium at levels considered high enough to be classified as E.P. Toxic. Thus, the filter press sludge wastes stored in this SWMU were not a listed hazardous waste though it contained hazardous constituents. The D001 paint wastes would have contained volatile organics such as xylene, toluene, and mineral spirits.

Release Controls

Drums were leaking onto permeable soil and several drums were leaking during the 1985 inspection. The area is presently well graveled, so no direct contact hazard is present from this SWMU. Any volatile organics once present would have either evaporated or leached into the ground.

History of Releases

This SWMU is believed to have been used for a period of less than four months in late 1984 to early 1985. The area is currently inactive. Drums were noted leaking onto the muddy gravel in 1985.

Relatively small amounts of volatile organics (D001) may have leached into the subsurface. Because the filter press sludge is mostly solid, it is doubtful that much of this waste leaked from the drums.

5.5.2 Further Information Needs

Sampling has not been conducted in this area and it is a requirement of the closure plan for this interim storage area.

5.6 INTERIM DRUM STORAGE AREA B

5.6.1 Information Summary

Unit Description

This SWMU is located south of the main manufacturing plant, near its center (Figure 2-3). It is 18 feet by 46 feet in size (D & L 1985) and presently well covered with gravel and unfenced (Photo 33). The area was used for a short period in 1985, while D & L was awaiting arrangements for off-site disposal with U.S. Ecology, after the SWA was withdrawn. The area was also well graveled during its use and no

leaking drums are reported. This unit is considered RCRA-regulated, because a closure plan has been requested.

Dates of Operation

Sixty-eight 55-gallon drums resulting from the repacking of drums from Interim Drum Storage Area A were placed in this SWMU in March 1985 (IDWAWM 1985b). These comprised 38 drums of D001 waste and 30 drums of F006 waste. On May 31, 1985, 101 drums were present; 45 drums of D001 waste and 56 drums of F006 waste (D & L 1985). The free-standing liquids in the paint sludge were eliminated by adding absorbents, a practice which increased the total volume of wastes (D & L 1985). One shipment was sent to Beatty, Nevada, on June 26, 1985, and the remaining wastes were reportedly shipped in mid-July 1985 (Hill & Robbins 1985).

Wastes Managed

The SWMU was used to store drummed paint wastes (D001) containing volatile organics such as toluene, xylene, and mineral spirits; and drummed trivalent chromium hydroxide filter press sludge, once erroneously named as F006 waste by D & L. The filter press sludge was not E.P. Toxic during use of this SWMU (Section 5.5). The wastes were transported to Beatty, Nevada, for disposal.

Release Controls

This area was used to store drums which were repacked and previously stored in Interim Drum Storage Area A (Section 5.5). Because it was used for less than four months, it is unlikely any of these wastes were released to the environment. However, drums were stored on a permeable base.

History of Releases

None noted and none likely.

5.6.2 Further Information Needs

Sampling has not been conducted in this area and it is a requirement of the closure plan for the interim storage area. Limited sampling only appears warranted.

5.7 FORMER HAZARDOUS WASTE ACCUMULATION AREA

5.7.1 Information Summary

This interior storage area was located a few feet northeast of the autophoretic unit (at the time, the zinc plating unit). The area was 30 feet by 15 feet in size, and had a concrete floor; the floor was replaced as part of the 1983 upgrade of the facility. The interior storage area once was located in a lean-to structure affixed to the main building. The autophoretic/ zinc plating unit was also present within the lean-to, but it was never moved and thus serves as a location marker. The floor of this SWMU is in good condition with no visible cracks. Small blue paint markings define its four corners. D & L has recently hired HDR of Omaha, Nebraska, to conduct the closure of this unit. This container storage area was in use during interim status; and thus, it is assumed to be RCRA-regulated (Section 3.2.1).

Dates of Operation

This SWMU was used to accumulate waste until 1984 to 1985 after the SWAs for off-site disposal were withdrawn (Sections 5.5 and 5.6.) Apparently the volume of drummed filter press wastes became too great to store here, so drums were moved outside to Interim Drum Storage Area A.

Wastes Managed

Reportedly, only filter press sludge was stored in this unit (D & L 1990d). The sludge was stored in 55-gallon drums (D & L 1990d). The filter press sludge was E.P. Toxic for chromium during these years of storage.

Release Controls

This unit had a concrete floor which would have drained to nearby floor grates that flow to the wastewater treatment system.

History of Releases

None reported in file information.

5.7.2 Further Information Needs

None noted at this time.

5.8 DRUM STORAGE AREA #1

5.8.1 Information Summary

Unit Description

This SWMU is located just outside the main manufacturing building, near its southwestern corner (Figure 2-3). The drums are stored on wooden pallets on a concrete pad (Photo 31). The concrete pad and drums appeared to be in good condition with drums neatly stacked one high. Approximately 26 drums were in storage during the VSI, occupying a space of approximately 225 square feet. The concrete pad adjacent to the building is considerably larger than this and so more drums could easily be stored here (Photo 31). Areas adjacent to the concrete pad are graveled. This unit is not RCRA-regulated.

Dates of Operation

This drum storage area has been in use since mid-1989.

Wastes Managed

The carbon and zinc filter press sludge, zinc phosphate sludge, and pre-paint washer sludge wastes are stored in this SWMU. None of these wastes are classified as hazardous waste under CFR Part 261 Subparts C and D (Appendices H, I, and N). All these drummed wastes are transported by U.S. Ecology to Beatty, Nevada, for ultimate disposal (Appendix J). Before the SWAs were withdrawn, the filter press sludge was stored in cardboard bins, and covered with plastic until transported to the county landfill.

Release Controls

The concrete pad is not diked. Inspection of the drums and of the quality of the concrete pad appears to be the main method employed by D & L to prevent releases from this SWMU. No stains or cracks on the concrete pad were noted and all drums in storage during the VSI were in good condition. If the integrity of the drums remains acceptable, the potential for a release from this SWMU is very low. However, a dike would further decrease the potential for releases to the environment.

History of Releases

None noted.

5.8.2 Further Information Needs

None noted at this time.

5.9 DRUM STORAGE AREA #2

5.9.1 Information Summary

Unit Description

This storage area is located adjacent to the north side of the painting building (Photo 39). Because of high levels of volatile organics in the ambient air, the FIT did not closely observe this SWMU during the VSI. Only one drum was in storage. This drum and the concrete pad that forms the floor of this SWMU appeared to be in good condition. This unit was in use during interim status, and it is assumed to be RCRA-regulated.

Dates of Operation

This active SWMU has been in use since the mid-1970s.

Wastes Managed

Only wastes generated during painting operations are currently stored here (Section 5.3). The liquid/sludge wastes are D001 wastes due to their ignitability (Appendix M). The solid paint wastes, the primary waste stored in this area, are not classified as hazardous wastes (Section 3.2.1). Occasionally, drummed, off-spec paints are stored

here, awaiting off-site transport and disposal by either U.S. Ecology or Safety-Kleen (Appendix K). Small amounts of Sorbond are added to solid paint wastes as a precautionary measure (D & L 1990d). Before mid-1989 dewatered sludges, now stored in Drum Storage Area #1, were also stored in this unit.

Release Control

The area is not diked. As for Drum Storage Area #1, it appears that D & L strictly maintains the quality of the drums and concrete pad to prevent releases of spilled material. The potential for an air release from these closed drums is minimal. The air releases which occur during the painting operations and the drumming of painting wastes are much more significant.

History of Releases

None noted.

5.9.2 Further Information Needs

None noted at this time.

5.10 AREAS OF CONCERN

Four areas of concern are worth noting: the two recycled waste streams (used oil and spent solvents); the mineral spirits tank and underground supply line to the painting building, which leaked in 1987; and the normalizing oven where a fire occurred in 1989.

The used oil storage area (Photo 34) is located to the south of the main building, near its southeastern corner (Figure 2-3). The used oil originates mainly from vehicle and equipment maintenance, but also includes forming oils used on metals which require pressing; therefore, non-water soluble lubricating and hydraulic oils. Used oil is stored in a tank of approximately 1,000-gallon capacity (E & E 1990a). The tank rests on a 20- X 15-foot concrete pad surrounded by a 6-inch dike (Photo 34). Waste oil is transported mainly by Capitol Oil (Section 3.2). During the 1987 RCRA inspection, a considerable amount of oil-stained soil was noted around the waste oil storage tank. No stains were observed during the FIT VSI. However, this concrete pad was installed

in April 1990, having been moved when new loading docks were emplaced (D & L 1990d). The former location of the waste oil storage tank reportedly was of similar construction (D & L 1990d).

D & L uses two Safety-Kleen parts cleaners to clean maintenance parts (E & E 1990a). The parts cleaners have been used since at least 1978. One parts cleaner has a capacity of 5 gallons; and the other, 9 gallons (D & L 1990d). Safety-Kleen services the parts cleaners monthly and manifests the waste spent petroleum naphtha (mineral spirits) as D001 waste due to its ignitability (Section 3.2). The parts cleaners were not observed during the VSI.

The mineral spirits leak discovered during the 1987 RCRA inspection was apparently the result of corrosion of the underground galvanized steel pipeline that transmits the thinner from the 10,000-gallon storage tank to the mixing tank in the painting building. An elbow in the pipe leaked due to corrosion at the threads. The RCRA inspector reported that the spill could be fairly extensive. However, D & L (1990a) reported that the liquid phase was collected and placed back into the paint system, and the visibly contaminated soil as well as surrounding soil was removed. The excavated area was approximately 4 feet in diameter and 3 feet deep (D & L 1990a). The 1988 RCRA inspection report indicated that six drums of this excavated soil were shipped off site by U.S. Ecology and one drum was left on site. It is unknown why one drum remained on site. The report also indicated the wastes were determined not to be E.P. Toxic, but the wastes were not tested for volatile organics or ignitability.

The underground section of the pipe was subsequently replaced with a PVC pipe. The end of this PVC pipe where the 1987 leak occurred is visible in Photo 37. The mineral spirits tank is refilled approximately every two months and is inspected and inventoried weekly by yardstick measurements. D & L could not produce inventory records for the 1987 time frame when the leak occurred. D & L indicated no other pipe sections were found to be damaged during replacement of the galvanized steel pipe (D & L 1990d). The mineral spirits tank and supply line was installed in 1983, so it was only four years old when it developed a leak. Before 1983, the mineral spirits was purchased in 55-gallon drums.

A fire was reported in the summer of 1989 by a resident adjacent to D & L. According to this resident a fire occurred at the northwest corner of the main manufacturing building, where the normalizing oven is located. The resident reported that the fire produced a large amount of black and yellow smoke. The resident called the plant security guard who notified the local fire department who put out the fire. The normalizing oven is fueled by natural gas and was added to the facility about two years ago. D & L reported that an electrical fire occurred. The resident also complained of odors (Section 6).

SECTION 6: SUMMARY OF SITE VISIT

The most significant new information obtained during the VSI of May 8, 1990, was that zinc plating was no longer used and had been replaced with the autophoretic process. Additionally, photoionizer (HNu) readings taken at the entrance of the painting building exceeded E & E established action levels and, therefore, the FIT did not enter this building. The wastewater system was found to have been modified substantially from the process described in the site files; the 360 employees reported by EPA in 1987 had increased to the present 600 to 650 employees. The building was also much larger than anticipated, because the only site map in the file was from the 1978 topographic map.

With the elimination of the zinc plating process, chromium is no longer used in any of D & L's processes. The existence of the two exterior drum storage areas was also unknown before the VSI. It was assumed that the interior Hazardous Waste Accumulation Area was still in use. The site files did not mention the normalizing oven, which was added in 1988 to aid in the manufacturing of springs for seat frame adjusters. See Appendix O for informational memorandums prepared by D & L subsequent to the VSI.

The HNu was used to monitor ambient air quality for volatile organics during the VSI. Readings of 15 parts per million (ppm) benzene equivalents were noted at the west end of the corridor between the two on-site buildings. The paint totes storage room exhibited readings of 8 ppm. HNu readings of 2 to 3 ppm were noted approximately 30 feet north of the paint building. E & E protocol mandates that personal protective equipment be upgraded from level C to level B if 5 ppm readings are encountered. The FIT did not enter the building because levels well above 5 ppm were expected to be encountered inside. The FIT did not monitor off-site reading, but under the conditions of May 8, 1990, they would be expected to be below 1 ppm which is an E & E action level necessitating the use of respiratory protection (Level C).

When the FIT was observing D & L from off site on the evening of May 7, 1990, a local resident approached and complained of severe odors

emanating from the facility. He said the odors caused throat, nose, and eye irritation and in his opinion seemed to have worsened in the past year or two. The evening was extremely windy and odors were low at the time. The neighboring resident also recounted the fire in the normalizing oven that occurred during the summer of 1989. He had been told by an D & L employee that some oily waste which had been collected from an interior pit had accidentally caught on fire. He videotaped the fire incident and threatened to speak with his Senator, regarding his concerns for his family's health.

According to D & L representatives interview on May 8, 1990, the fire was an electrical fire of no major consequence. The source of oily wastes from an interior pit is unknown; therefore, the validity of the employee's report to the neighboring resident has not yet been substantiated.

SECTION 7: SUMMARY AND CONCLUSIONS

The Red Oak, Iowa, D & L Company facility manufactures seat frames and seat frame adjusters. The bulk of the plant operations consist of forming of the metal parts. The parts are finished by one of several techniques: painting with black paint, which contains a xylene, toluene, and mineral spirits mixture; plating with a zinc phosphate coating; or by depositing a latex solution on the metal using an autophoretic process. An on-site wastewater treatment system treats wastewater from the zinc phosphator and autophoretic units. The wastewater treatment system also produces a filter press sludge which is a carbon and zinc sludge. The sludge is not E.P. Toxic. (Zinc plating utilizing hexavalent chromium once was used at this facility; in 1981, the resultant filter press sludge was tested and found to be E.P. Toxic. This process has been eliminated.) Wastewater discharge to the municipal sewer system is city permitted. The City of Red Oak maintains an NPDES permit for discharge of the municipal wastewater treatment system to the East Nishnabotna River. Other wastes produced include zinc phosphate sludge, pre-paint washer sludge, and painting wastes.

Several interim status storage areas require closure. The facility was granted interim status in 1980, but in 1985 IDWAWM unofficially withdrew D & L's interim status and waived closure. IDWAWM later explained to D & L the need for closure as per EPA regulations. TSDF Interim Status was granted for two treatment tanks in the wastewater treatment system, and 500-gallons of container storage area. D & L submitted an abbreviated closure plan in 1985; this plan addressed only two drum storage areas, Interim Storage Areas A and B. This closure plan was inadequate, and D & L has failed to revise the plan as required by the IDNR and EPA. Two other drum storage areas were in use during interim status: Former Hazardous Waste Accumulation Area (prior to 1984-85) and Drum Storage Area #2 (mid-1970s to present).

A mineral spirits product leak was discovered in 1987 during a RCRA inspection. The inspector also noted oily stained soil around the used oil storage tank. D & L removed seven drums of visibly contaminated

soil from the area of the mineral spirits leak and replaced the four-year-old underground galvanized steel pipeline with PVC pipe. The used oil storage tank location was moved in 1990 to make way for construction of new loading docks. Its previous location is unknown; the area has been recently graveled.

The facility is located on soils that are assumed to be moderately slow to moderately permeable, and underlain by either glacial or alluvial deposits. The site is situated at the edge of the floodplain, approximately 2,500 feet west of the East Nishnabotna River. The nearest well is a residential well located approximately 4,000 feet upgradient of the site. No residential wells are known to exist downgradient of the site. Municipal wells occur at distances greater than 1.8 miles from the site; none are directly downgradient. The aquifers used in the area are alluvial, glacial, and the Cretaceous-age Dakota Sandstone. All are hydrologically connected.

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APPENDIX A

PHOTOGRAPHS

No.: 1,2

Subject

Rear (east) part of facility note small painting building connection to large manufacturing building.

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/07/90 ; 18:45 hrs.

Direction

Southsouthwest

SITE NAME: Douglas & Lomason Co.

SITE LOCATION: Red Oak, Iowa

JOB NO.: F-07-9002-006 / FIA0261RA

ecology and environment, inc.

PHOTOGRAPHIC RECORD

ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA0261RA

No.: 3
Subject

Rear (east) part of facility; note small building connection to large manufacturing building.

Photographer

S.P. Martin

Witness

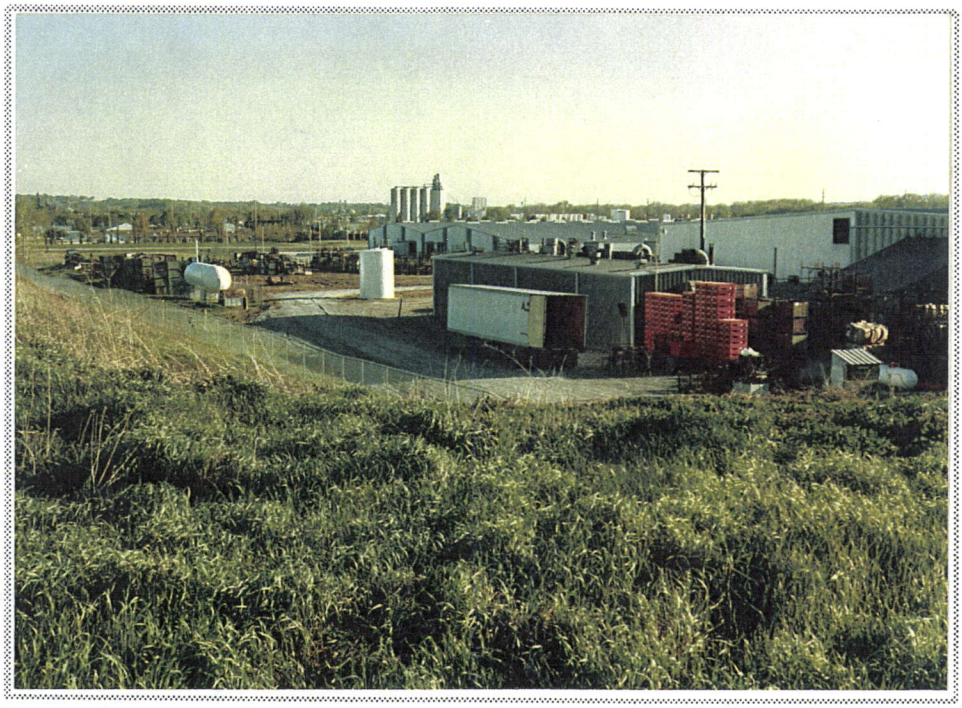
Otavio Silva

Date/Time

05/07/90 ; 18:45 hrs.

Direction

Southsouthwest



No.: 4
Subject

Horizontal vent stack is from normalizer oven.

Photographer

S.P. Martin

Witness

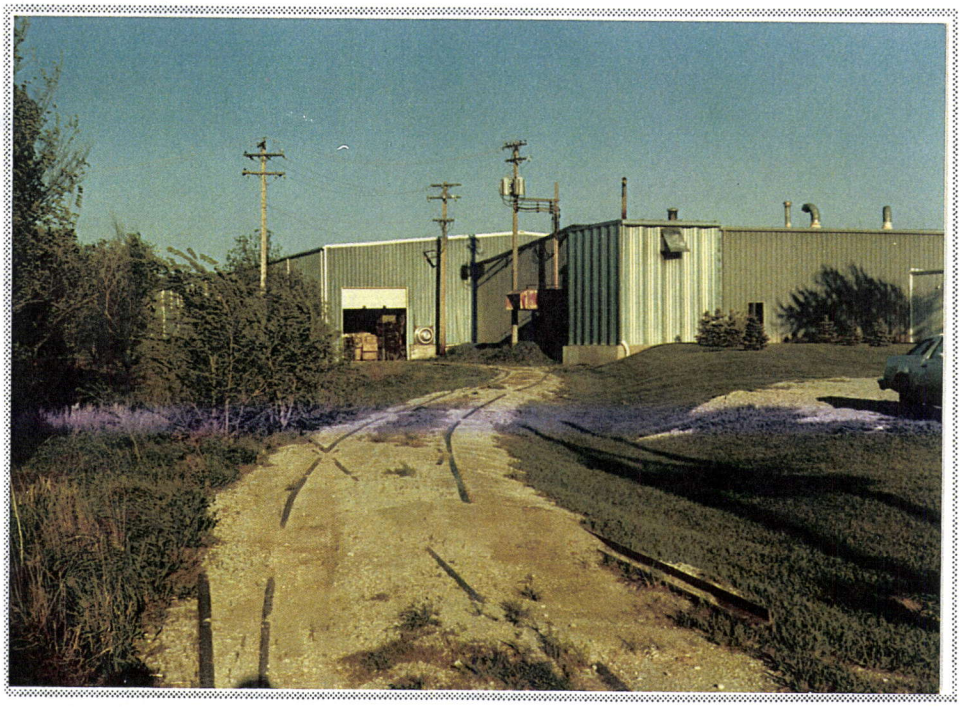
Otavio Silva

Date/Time

05/07/90 ; 19:05 hrs.

Direction

East



ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA0261RA

No.: 5
Subject

Drainage culvert on west site of facility. Similar one of north side also.

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/07/90 ; 19:05 hrs.

Direction

South

No.: 6
Subject

Douglas & Lomason facility building on left (north) and parking lot on right (south).

Photographer

S.P. Martin

Witness

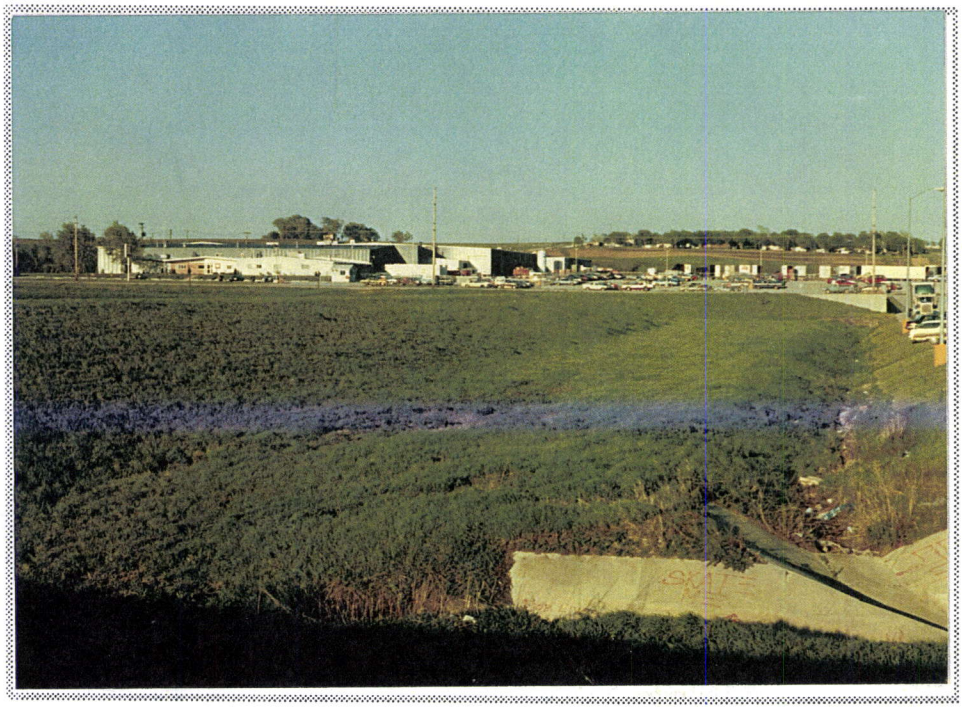
Otavio Silva

Date/Time

05/07/90 ; 19:15 hrs.

Direction

East



ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026TRA

No.: 7
Subject

Douglas & Lomason facility building on left (north) and parking lot on right (south).

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/07/90 ; 19:15 hrs.

Direction

East

No.: 8
Subject

Blue doors are normalizer oven.

Photographer

S.P. Martin

Witness

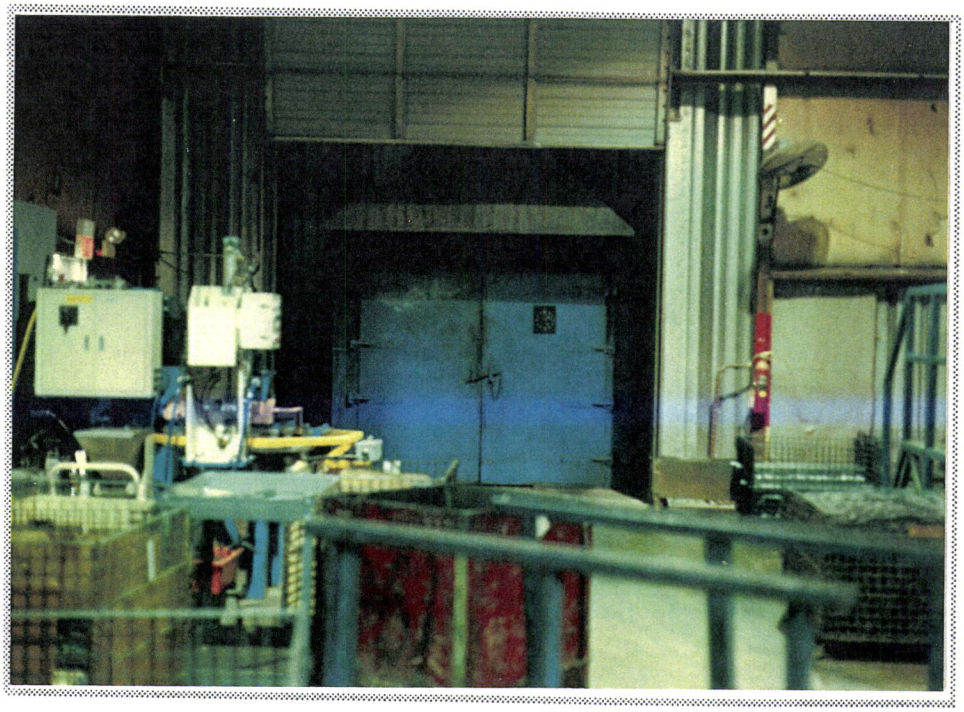
Otavio Silva

Date/Time

05/08/90 ; 10:30 hrs.

Direction

North



ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006/ FIA026/RA

No.: 9
Subject

Monorail with seat frames. looking toward painting building.

Photographer

S.P. Martin

Witness

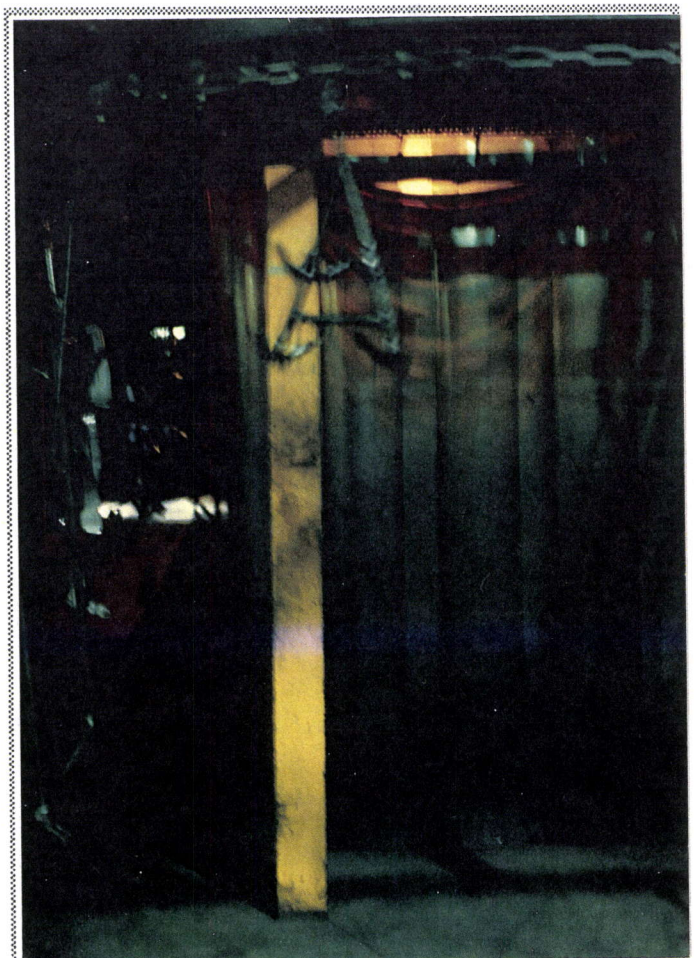
Otavio Silva

Date/Time

05/08/90 ; 10:40 hrs.

Direction

East



No.: 10
Subject

Monorail (out of focus).

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/08/90 10:40 hrs.

Direction

East

ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Ioaw
TDD/PAN#: F-07-9002-006 / FIA0267RA

No.: 11
Subject

Paint totes. Paint is pumping into the mixing tank in the painting building.

Photographer

S.P. Martin
Witness

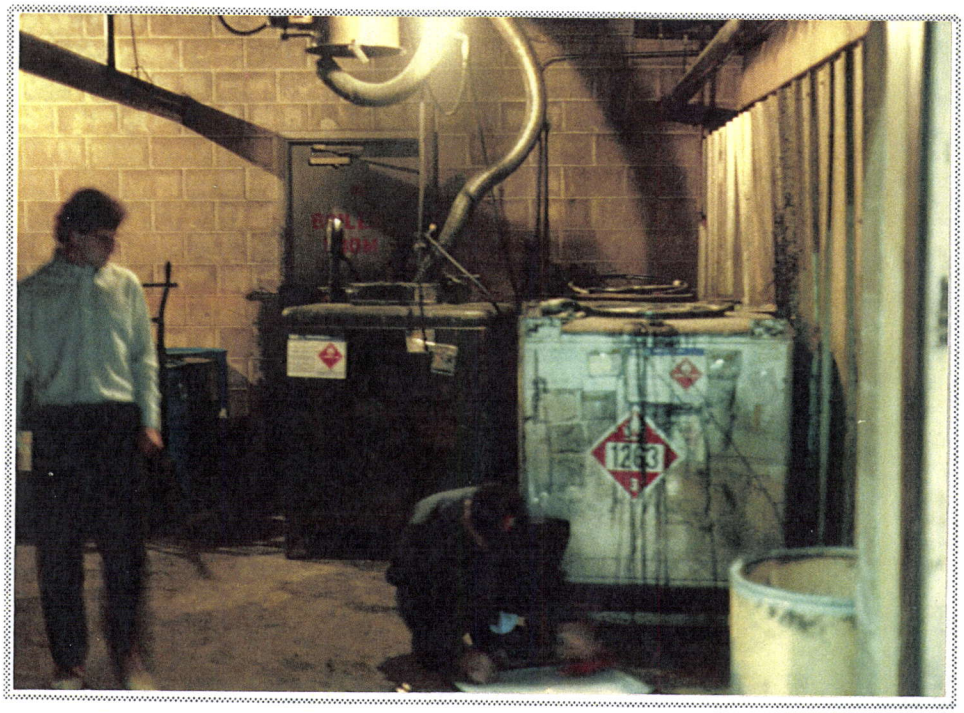
Otavio Silva

Date/Time

05/08/90 ; 10:45 hrs.

Direction

East



No.: 12
Subject

North end of autophoretic unit. This unit sets on original concrete (pre 1983).

Photographer

S.P. Martin
Witness

Otavio Silva

Date/Time

05/08/90 ; 10:50 hrs.

Direction

Southwest

ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006/FIAØ261RA

No.: 13

Subject

Area of former hazardous waste accumulation area; to northeast of auto-phoretic unit. Concrete has been replaced here.

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/08/90 ; 10:50 hrs.

Direction

Northwest

No.: 14

Subject

North end of zinc phosphate plating system (finishing end).

Photographer

S.P. Martin

Witness

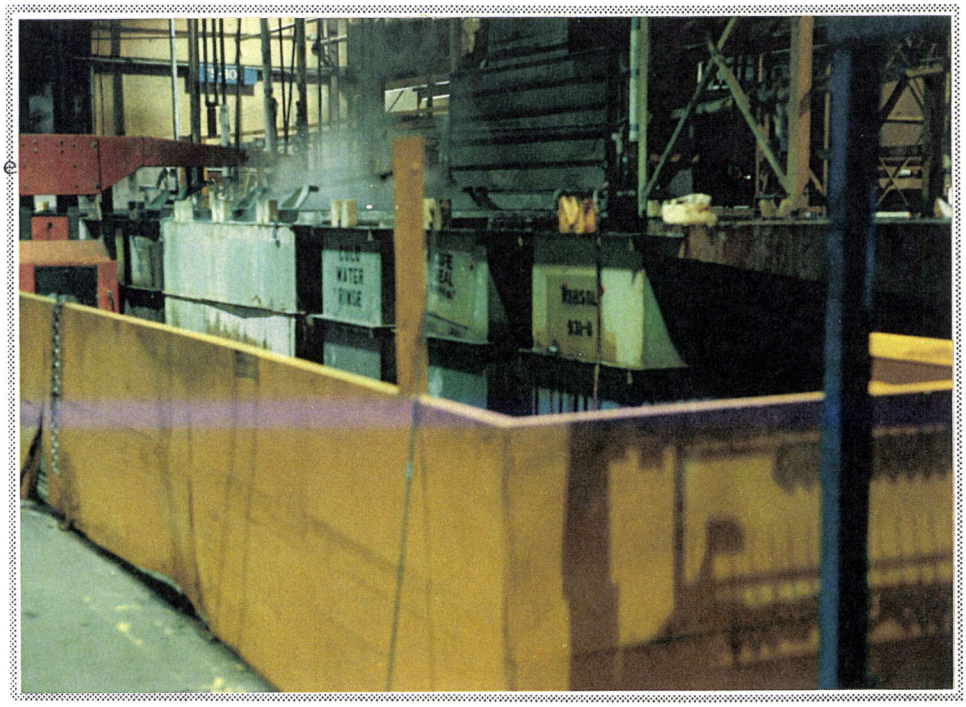
Otavio Silva

Date/Time

05/08/90 ; 10:50 hrs.

Direction

Southwest



ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 /FIA0261RA

No.: 15
Subject

Drain grating below zinc phosphate plating system.

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/08/90 ; 10:50 hrs.

Direction

West

No.: 16
Subject

South end of zinc phosphate plating system with conveyor (orange) holding parts inside vat.

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

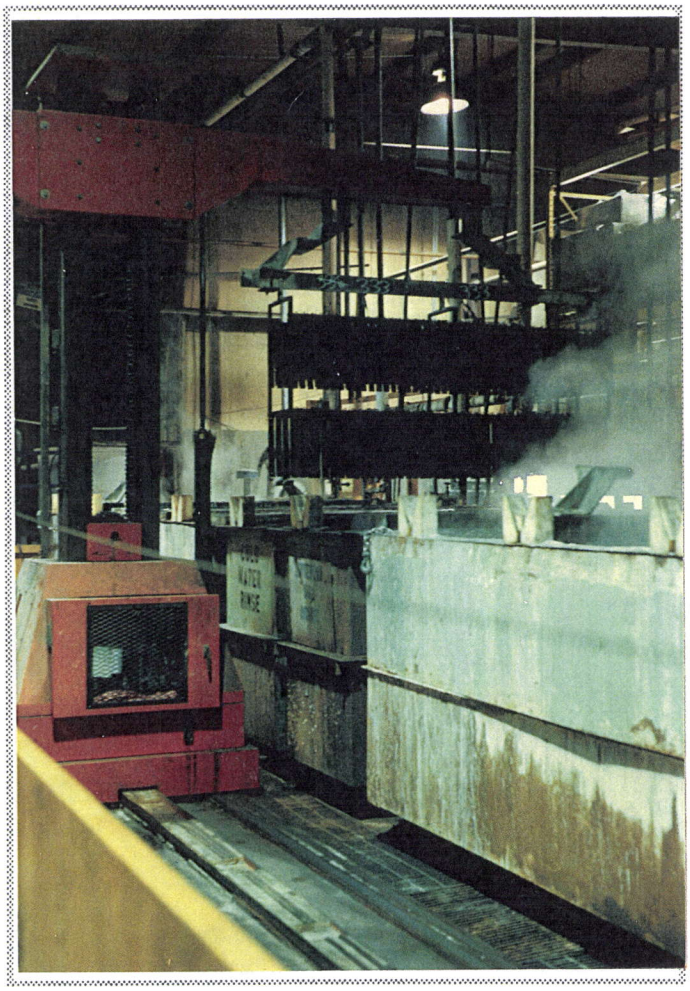
05/08/90 ; 10:50 hrs.

Direction

Southsouthwest

ecology and environment, inc.

PHOTOGRAPHIC RECORD



SITE NAME: Dougall's & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026TRA

No.: 17
Subject

Zinc phosphate plating system shown with conve yor (orange) transferring parts from one vat to another.

Photographer

S.P. Martin
Witness
Otavio Silva
Date/Time

05/08/90 ; 10:50 hrs.
Direction

Southwest

No.: 18
Subject

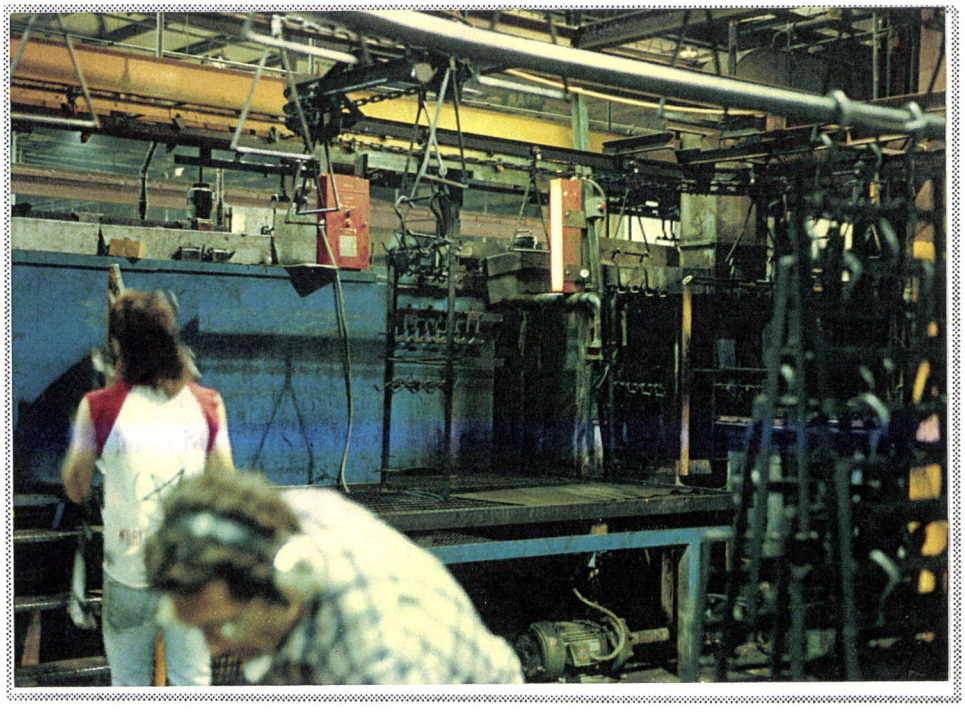
South end of autophoretic unit (input).

Photographer

S.P. Martin
Witness
Otavio Silva
Date/Time

05/08/90 ; 10:55 hrs.
Direction

Southeast



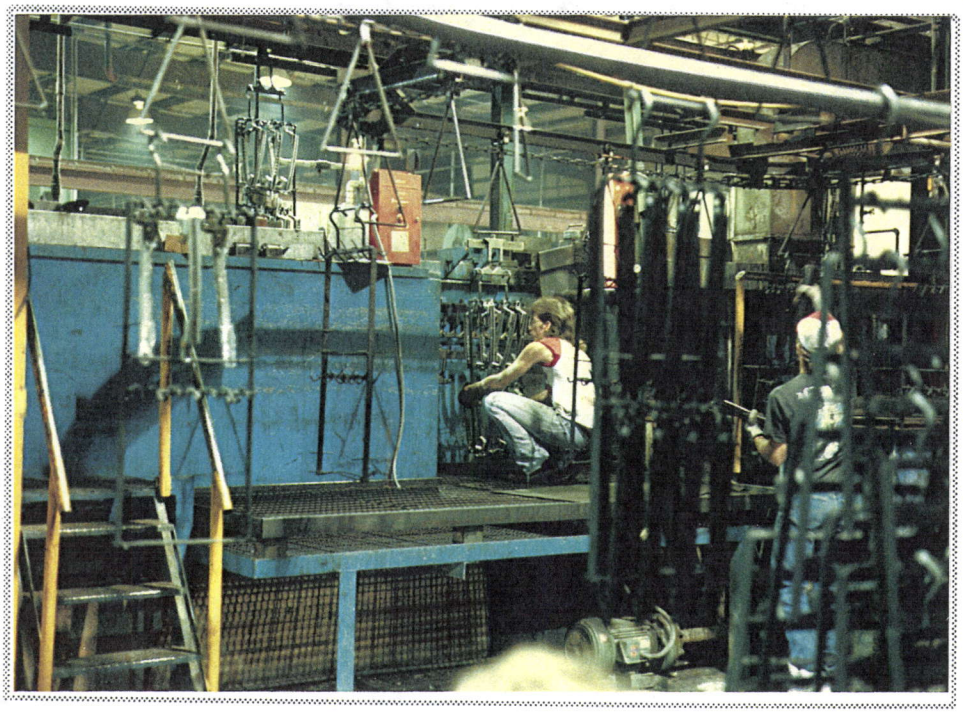
ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026TRA

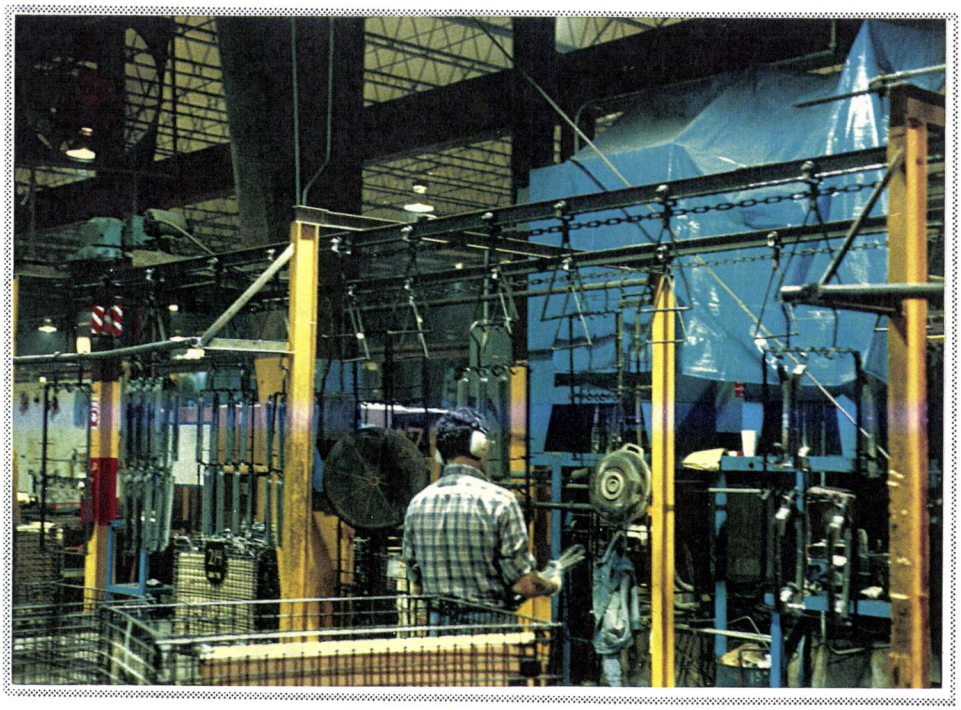
No.: 19
Subject
South end of autophoretic unit showing input area (stooped worker) and output on monorail in foreground.

Photographer
S.P. Martin
Witness
Otavio Silva
Date/Time
05/08/90 ; 10:55 hrs.
Direction
Southeast



No.: 20
Subject
North end of autophoretic unit (infrared drying oven area).

Photographer
S.P. Martin
Witness
Otavio Silva
Date/Time
05/08/90 ; 10:55 hrs.
Direction
Northeast



ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Dougals & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026TRA

No.: 21

Subject

South end of zinc phosphate plating system. View from above showing escaping steam.

Photographer

S.P. Martin

Witness

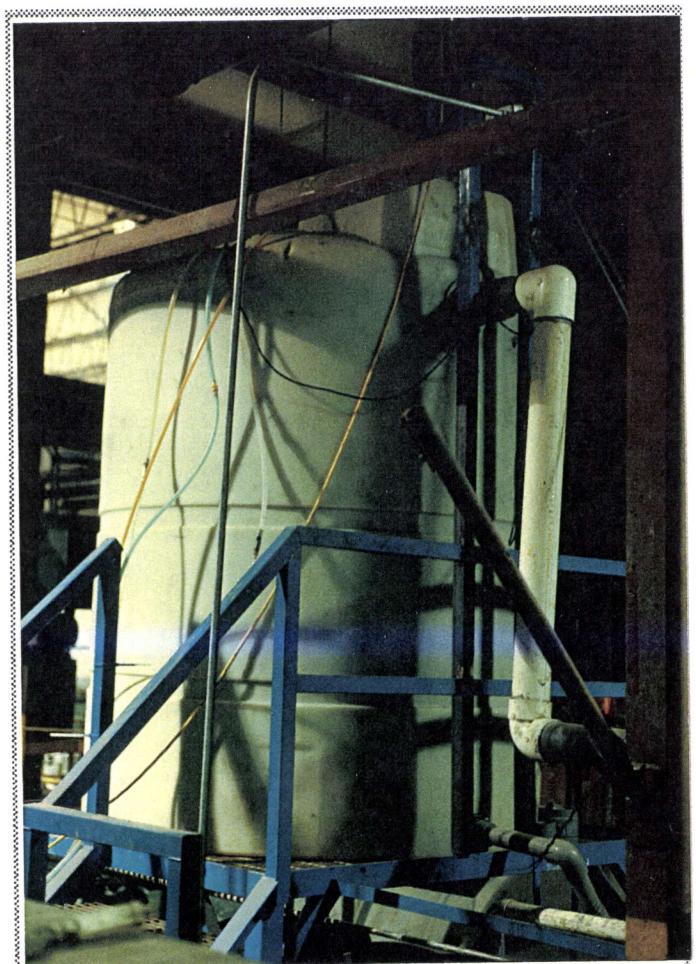
Otavio Silva

Date/Time

05/08/90 ; 10:58 hrs.

Direction

Northwest



No.: 22

Subject

Neutralization/ precipitation tank/ wastewater treatment system.

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/08/90 ; 11:00 hrs.

Direction

Southeast

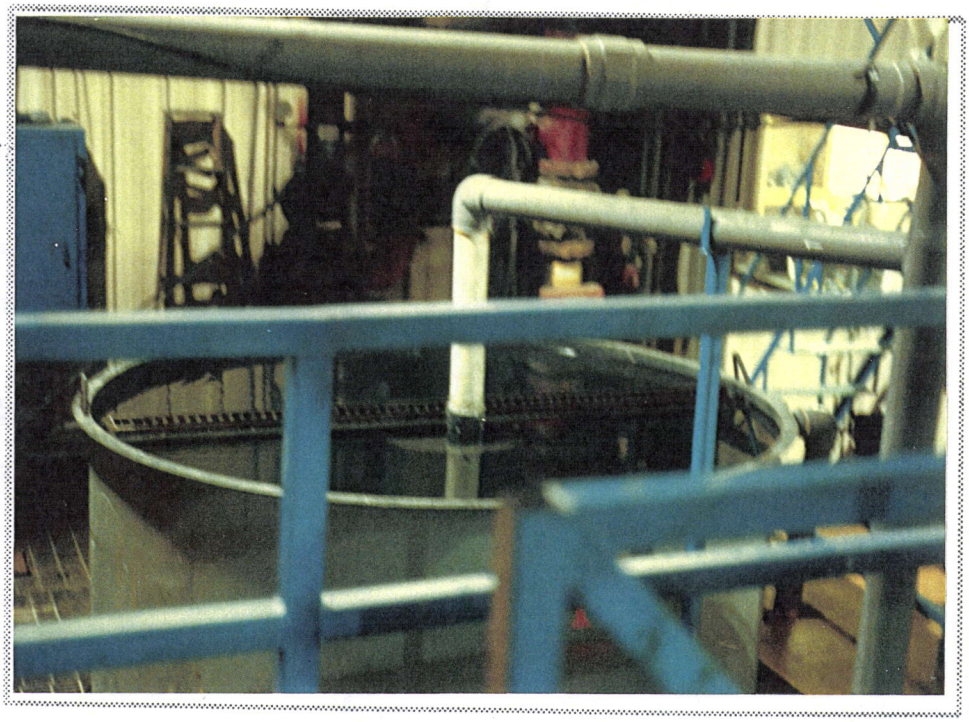
ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026TRA

No.: 23
Subject

Clarifier tank/ wastewater treatment system.



Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

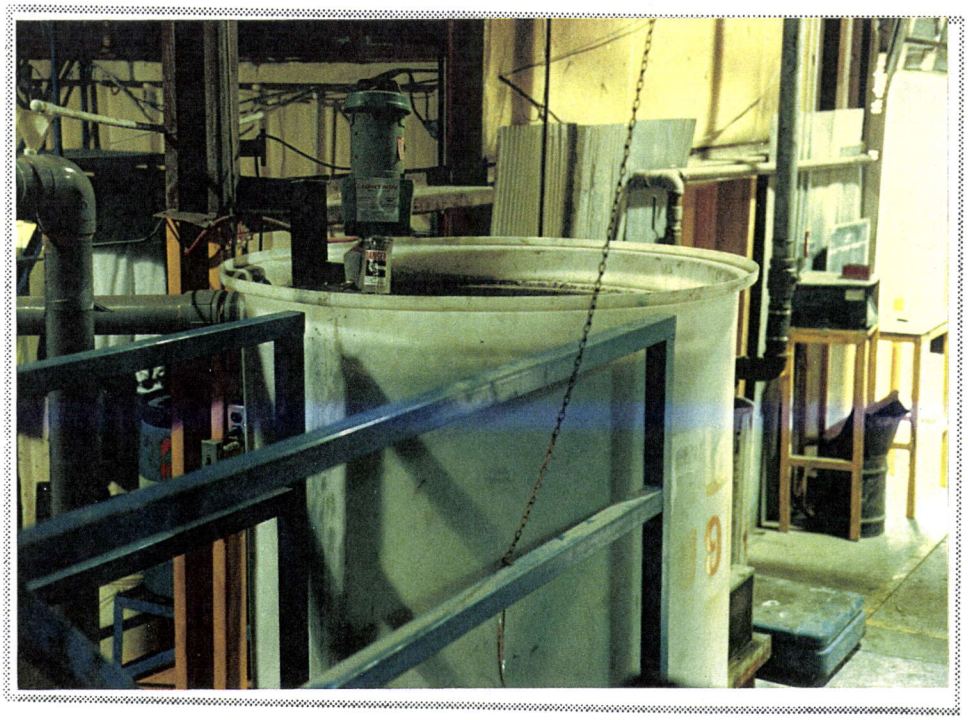
05/08/90 ; 11:00 hrs.

Direction

South

No.: 24
Subject

Flocculation tank/ wastewater treatment system.



Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

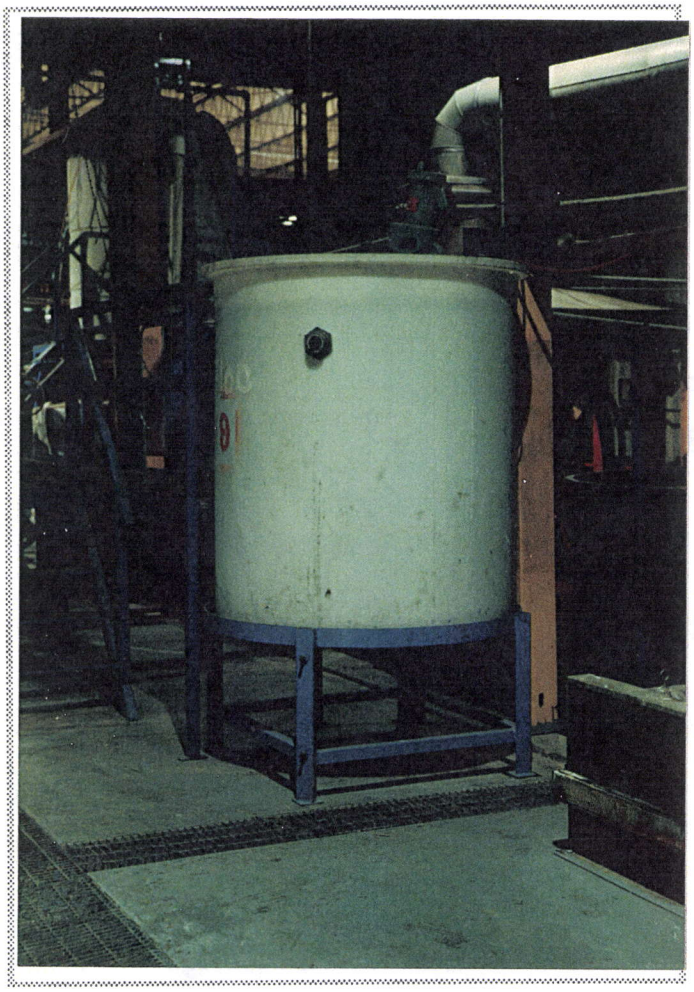
05/08/90 ; 11:00 hrs.

Direction

Southwest

ecology and environment, inc.

PHOTOGRAPHIC RECORD

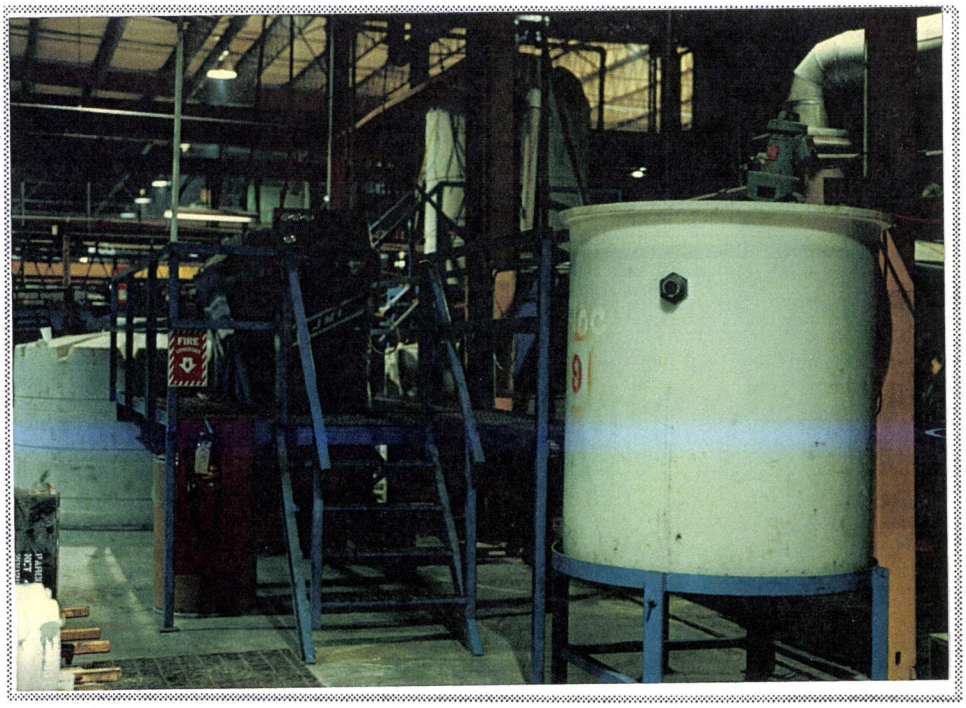


SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026IRA

No.: 25
Subject
Flocculation tank/ wastewater treatment system.

Photographer
S.P. Martin
Witness
Otavio Silva
Date/Time
05/08/90 ; 11:00 hrs.
Direction
Southwest

No.: 26
Subject
Filter press (center) with Flocculation tank on right and sludge tank on left. Small roll-off containment bin is below filter press stand.
Photographer
S.P. Martin
Witness
Otavio Silva
Date/Time
05/08/90 ; 11:00 hrs.
Direction
East



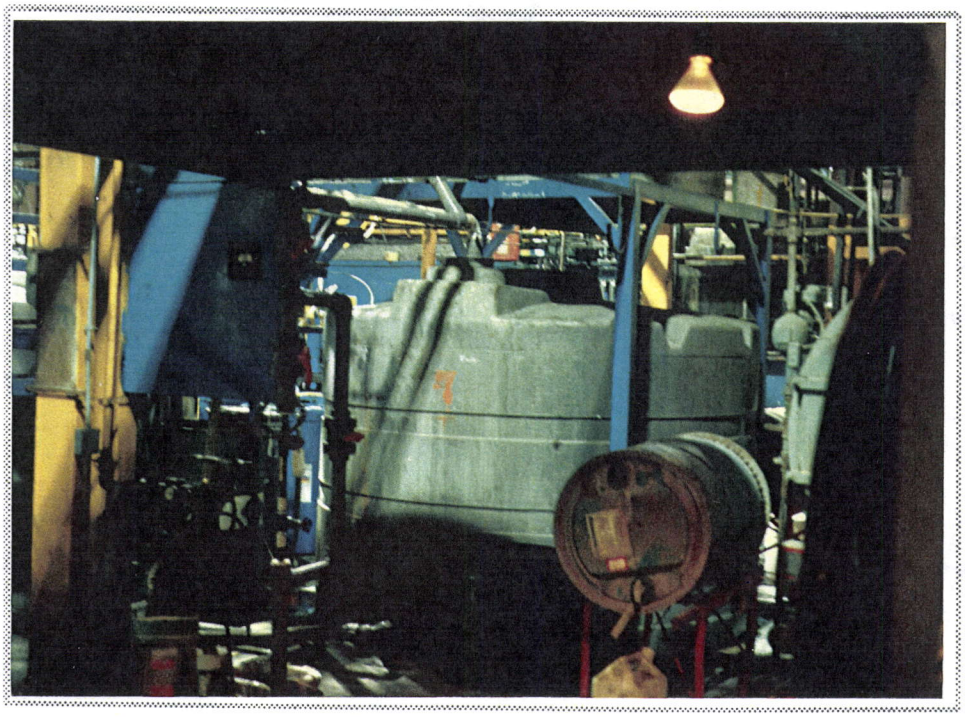
ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026IRA

No.: 27
Subject

Southern of two sludge thickening tanks (gray).



Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

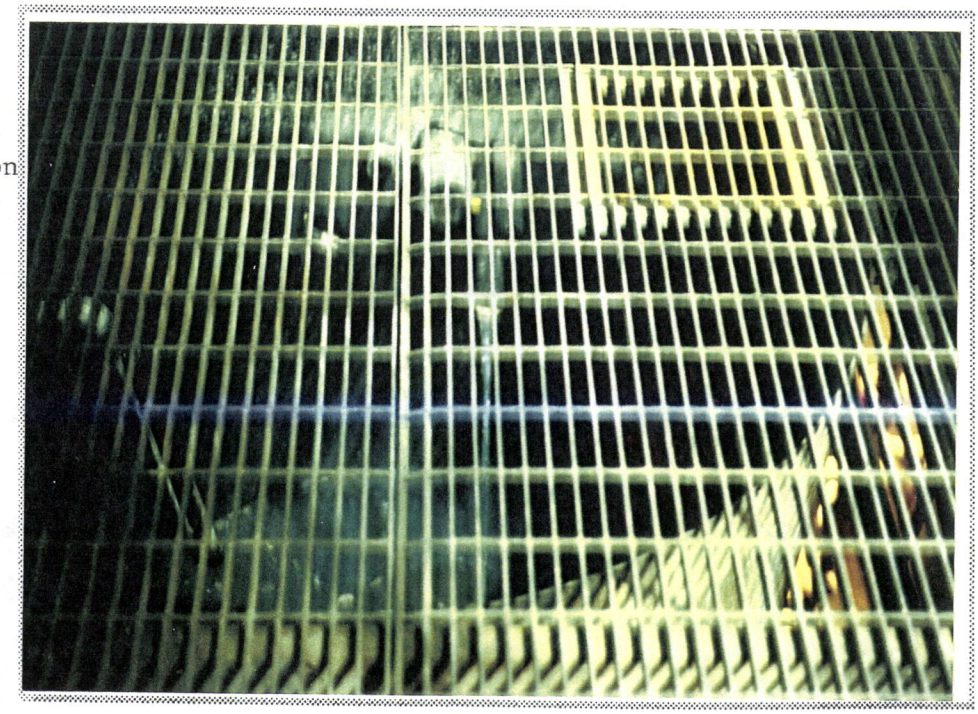
05/08/90 ; 11:00 hrs.

Direction

East

No.: 28
Subject

Western of two Equalization tanks. Tanks are located in basement area, below grating.



Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/08/90 ; 11:00 hrs.

Direction

West

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PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026IRA

No.: 29
Subject

Boiler (large green tank) used for heating of zinc phosphate plating system solutions and alkaline cleaner vat in autophoretic system. Drum in foreground is acid for pH adjustment.

Photographer

S.P. Martin

Witness

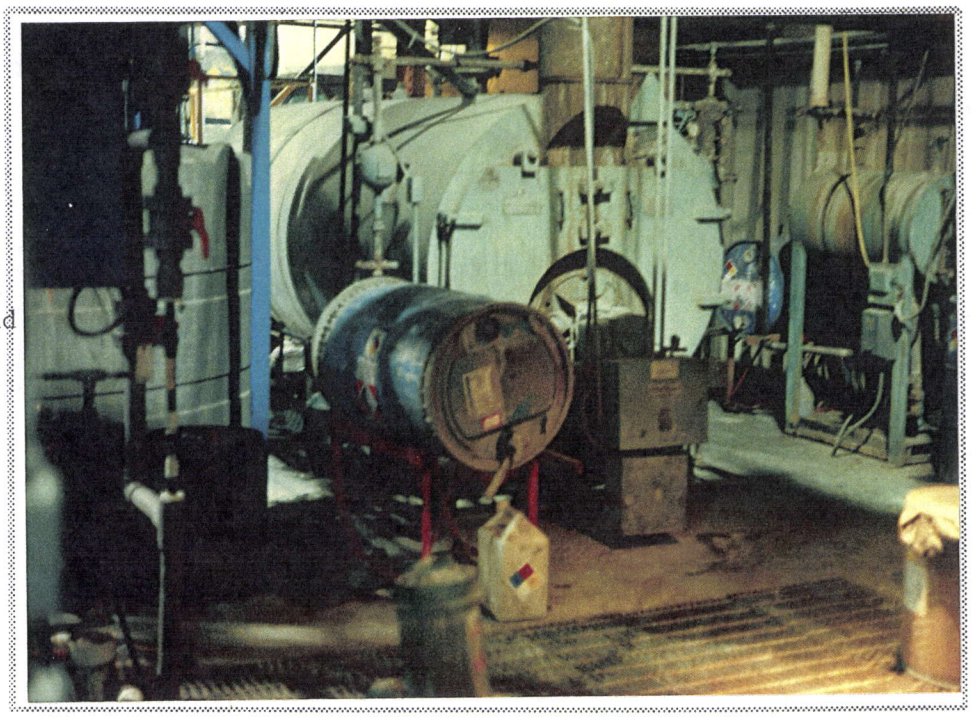
Otavio Silva

Date/Time

05/08/90 ; 11:00 hrs.

Direction

East



No.: 30
Subject

Green object in foreground is stirring motor for batch treatment tank. This tank is housed in the basement area below the grating.

Photographer

S.P. Martin

Witness

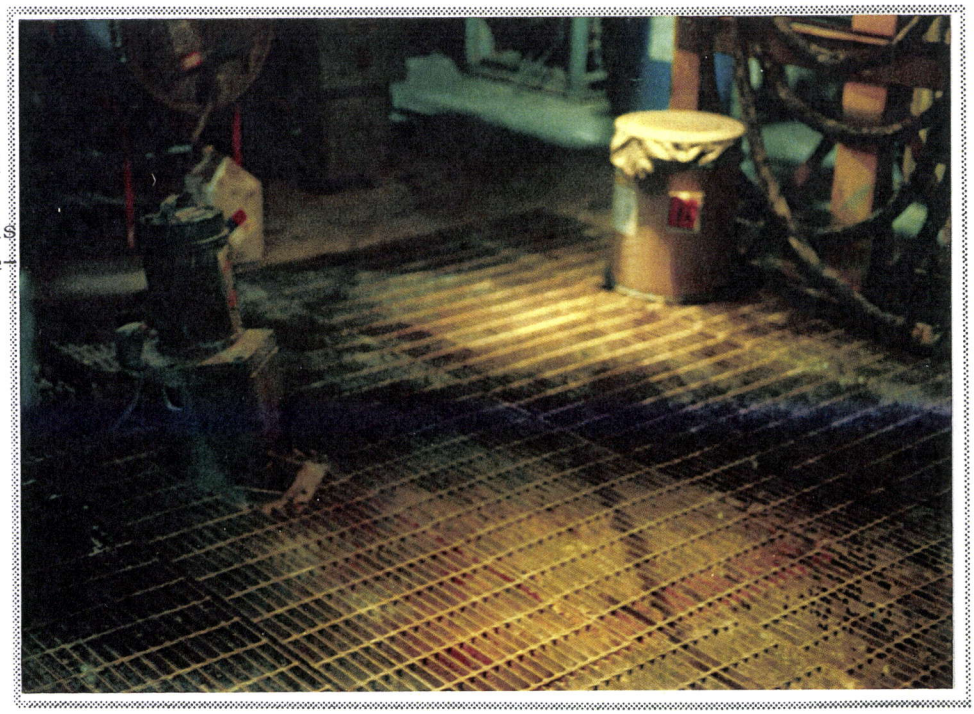
Otavio Silva

Date/Time

05/08/90 ; 11:00 hrs.

Direction

Southeast



ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA0267RA

No.: 31
Subject

Sludge drum storage area; located outside wastewaster treatment area. All drums contain zinc phosphate sludge.

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/08/90 ; 11:20 hrs.

Direction

Eastnortheast

No.: 32
Subject

Zinc phosphate replenisher drums (product) next to door leading to interior chemical storage room.

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/08/90 ; 11:20 hrs.

Direction

North

ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Dougals & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026TRA

No.: 33
Subject
Interim drum storage area B is to right of fence; adjacent to building. Note recent construction in area.

Photographer
S.P. Martin
Witness
Otavio Silva
Date/Time
05/08/90 ; 11:25 hrs.
Direction
North

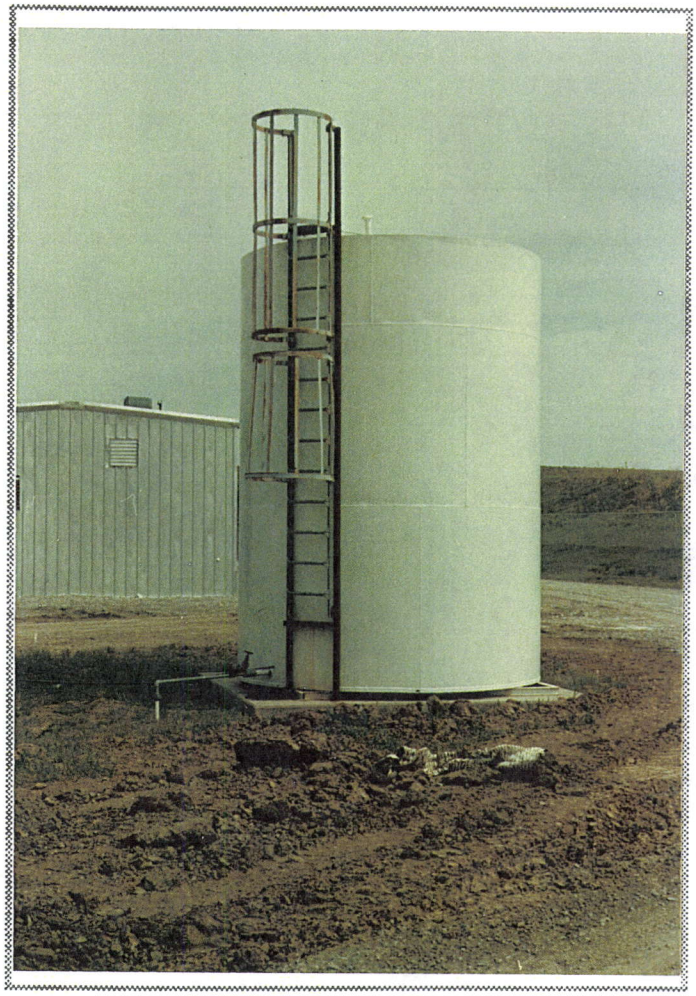
No.: 34
Subject
Used oil storage area. Large red tank contains oil, others are diesel and gasoline. Drums contain hydraulic oil. Water occurs on diked pad.

Photographer
S.P. Martin
Witness
Otavio Silva
Date/Time
05/08/90 ; 11:25 hrs.
Direction
North

ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026TRA



No.: 35
Subject
Mineral spirits storage tank. Underground line leads to mixing tank inside painting building shown in background. Tank will be bermed as part of ongoing construction/upgrade.

Photographer
S.P. Martin
Witness
Otavio Silva
Date/Time
05/08/90 ; 11:25 hrs.
Direction
North-northeast

No.: 36
Subject
Labels on Mineral Spirits tank. Inventory is accomplished by yardstick measurements.

Photographer
S.P. Martin
Witness
Otavio Silva
Date/Time
05/08/90 ; 11:25 hrs.
Direction
Southeast

ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006/FIA0261RA

No.: 37
Subject

Inlet mineral spirits pipe to painting building; site of 1987 Mineral Spirits leak. Underground pipe subsequently replaced with PVC pipe to avoid corrosion.

Photographer

S.P. Martin

Witness

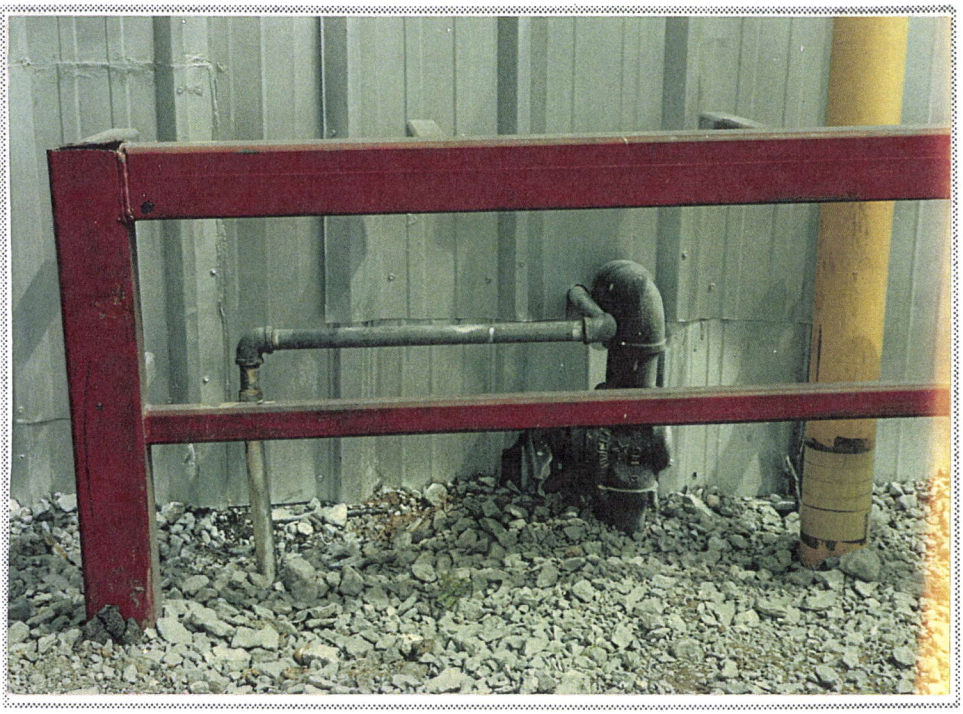
Otavio Silva

Date/Time

05/08/90 ; 11:25 hrs.

Direction

North



No.: 38
Subject

Interim drum storage area A; to southeast of painting building.

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/08/90 ; 11:25 hrs.

Direction

Northwest

~~END OF PHOTOGRAPHIC RECORD~~

(Photo not available)

ecology and environment, inc.

PHOTOGRAPHIC RECORD

SITE NAME: Douglas & Lomason Co.
SITE LOCATION: Red Oak, Iowa
TDD/PAN#: F-07-9002-006 / FIA026TRA

No.: 39
Subject

Paint waste drum storage area to north of Painting Building. Only one drum present (solid paint waste).

Photographer

S.P. Martin

Witness

Otavio Silva

Date/Time

05/08/90 ; 11:30 hrs.

Direction

South

Photo not available

No.:
Subject

Photographer

Witness

Date/Time

Direction

END OF PHOTOGRAPHIC RECORD

APPENDIX B

PRELIMINARY ASSESSMENT FORM
(2070-12)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IA	D041107871

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Douglas & Lomason Company	2700 N. Broadway (P.O. Box 117)

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Red Oak	IA	51566	Montgomery		

09 COORDINATES	LATITUDE	LONGITUDE
	41° 01' 48.9" N	095° 13' 53.2" W

10 DIRECTIONS TO SITE (Starting from nearest public road)
North edge of town on Hwy. 48.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Douglas & Lomason Company	24600 Halwood Court

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Farmington Hills	MI	48331	(313) 478-7800

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
(Address above is corporate headquarters)	

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
			( )

13 TYPE OF OWNERSHIP (Check one)
__X__ A. PRIVATE ____ B. FEDERAL: _____ (Agency name) ____ C. STATE ____ D. COUNTY ____ E.MUNICIPAL
____ F. OTHER: _____ (Specify) ____ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
__X__ A. RCRA 3001 DATE RCVD: 11/24/80 MO/DAY/YR ____ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RCVD: MO/DAY/YR ____ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
__X__ YES DATE 05/08/90 MO/DAY/YR
____ NO

BY(Check all that apply)
__X__ A. EPA __X__ B. EPA CONTRACTOR ____ C. STATE ____ D. OTHER CONTRACTOR
____ E. LOCAL HEALTH OFFICIAL ____ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (CHECK ONE)	03 YEARS OF OPERATION		
__X__ A. ACTIVE ____ B. INACTIVE ____ C. UNKNOWN	1968 BEGINNING YEAR	present ENDING YEAR	____ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Mineral spirits, toluene, and xylenes are among constituents of painting wastes; mineral spirits is also used in Safety-Kleen parts cleaners; zinc phosphate

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Main route of concern is air; former mineral spirits leak to subsurface - extent thought to be small.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous conditions and Incidents)

____ A. HIGH	____ B. MEDIUM	__X__ C. Low	____ D. NONE
(Inspection required promptly)	(Inspection required)	(Inspect on time available basis)	(No further action needed. Complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Ken Herstowski	EPA-RCRA/Iowa	(913) 551-7631

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Sharon Martin	E & E	FIT	(913) 432-9961	03/06/91 MO/DAY/YR

Douglas & Lomason Company

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IA	D041107871

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- X A. SOLID
- ___B. POWDER, FINES
- X C. SLUDGE
- ___D. OTHER _____ (Specify)
- ___E. SLURRY
- X F. LIQUID
- ___G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS _____
- CUBIC YARDS _____
- NO. OF DRUMS varies

03 WASTE CHARACTERISTICS (Check all that apply)

- X A. TOXIC
- ___B. CORROSIVE
- ___C. RADIOACTIVE
- X D. PERSISTENT
- ___E. SOLUBLE
- ___F. INFECTIOUS
- X G. FLAMMABLE
- X H. IGNITABLE
- X I. HIGHLY VOLATILE
- ___J. EXPLOSIVE
- ___K. REACTIVE
- ___L. INCOMPATIBLE
- ___M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			Several types of sludge - See report
OLW	OILY WASTE			
SOL	SOLVENTS			Paint wastes
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			Main ingredient in most sludges
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			Mainly zinc in sludges

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	Xylene	1330-20-7	Paint Constituent	15	percent
SOL	Toluene	108-88-3	Paint Constituent	15	percent
SOL	Formaldehyde	50-00-0	Paint Constituent	<1	percent
SOL	Mineral Spirits	64742-88-7	Paint Constituent	35	percent
SOL	VM & P Naphtha	8030-30-6	Paint Constituent	<5	percent

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

See Preliminary Assessment Report

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IA	D041107871

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUND WATER CONTAMINATION — 02 ___ OBSERVED (DATE: ___) X POTENTIAL ___ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~6,700 — 04 NARRATIVE DESCRIPTION

Soils are moderately permeable. Nearest well is residential and 3/4 mile upgradient. Nearest municipal well is 1.8 miles away.

01 ___ B. SURFACE WATER CONTAMINATION — 02 ___ OBSERVED (DATE: ___) ___ POTENTIAL ___ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

No potential except during flooding or very large rainfall events.

01 X C. CONTAMINATION OF AIR — 02 X OBSERVED (DATE: 5/8/90) ___ POTENTIAL ___ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION

Low levels of volatile organics outside painting building. Off-site concentrations are unknown.

01 X D. FIRE/EXPLOSIVE CONDITIONS — 02 ___ OBSERVED (DATE: ___) X POTENTIAL ___ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION

Potential if spills of mineral spirits occur.

01 ___ E. DIRECT CONTACT — 02 ___ OBSERVED (DATE: ___) ___ POTENTIAL ___ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ___ — 04 NARRATIVE DESCRIPTION

None known

01 X F. CONTAMINATION OF SOIL — 02 ___ OBSERVED (DATE: ___) X POTENTIAL ___ ALLEGED
03 AREA POTENTIALLY AFFECTED: < 1 (Acres) — 04 NARRATIVE DESCRIPTION

Former leak in mineral spirits underground line; was cleaned up of visibly contaminated soil. Also, spill of used oil.

01 X G. DRINKING WATER CONTAMINATION — 02 ___ OBSERVED (DATE: ___) X POTENTIAL ___ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ___ — 04 NARRATIVE DESCRIPTION

See ground water above.

01 X H. WORKER EXPOSURE/INJURY — 02 ___ OBSERVED (DATE: ___) X POTENTIAL ___ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: ___ — 04 NARRATIVE DESCRIPTION

See air above.

01 X I. POPULATION EXPOSURE/INJURY — 02 ___ OBSERVED (DATE: ___) X POTENTIAL ___ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ___ — 04 NARRATIVE DESCRIPTION

See ground water above.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 – DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: IA | 02 SITE NUMBER: D041107871

II. HAZARDOUS CONDITIONS AND INCIDENTS (CONTINUED)

01 ___ J. DAMAGE TO FLORA — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION
None noted.

01 ___ K. DAMAGE TO FAUNA — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
None known.

01 ___ L. CONTAMINATION OF FOOD CHAIN — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 _X_ M. UNSTABLE CONTAINMENT OF WASTES — 02 ___ OBSERVED (DATE: _____) _X_ POTENTIAL ___ ALLEGED
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION
None presently; see soil above.

01 ___ N. DAMAGE TO OFFSITE PROPERTY — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION
None known

01 ___ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 _X_ OBSERVED (DATE: various) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION
Have exceeded zinc and chromium limits on discharge permit to city sewer system on a number of occasions.

01 ___ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED
04 NARRATIVE DESCRIPTION
None known

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
None known

III. TOTAL POPULATION POTENTIALLY AFFECTED: unknown

IV. COMMENTS
Low priority follow-up needed to oversee closure of interim drum storage areas.

V. SOURCES OF INFORMATION (Cite specific references. e.g., state files, sample analysis, reports)
See PA of site - July 1990

APPENDIX C

WASTEWATER DISCHARGE PERMITS

IOWA DEPARTMENT OF WATER, AIR AND WASTE MANAGEMENT

Attachment 10

WATER QUALITY PROGRAM

OPERATION PERMIT APPLICATION

TREATMENT AGREEMENT

WAMM USE
IOWA FACILITY NO.
IND. CONT. AGREEMENT NO.
REPLACES AGREEMENT NO.

NOTICE

A properly executed Treatment Agreement must be submitted by the contributor not less than one hundred eighty (180) days before the new major contributing industry proposes to discharge into a wastewater disposal system. Any proposed expansion, production increase or process modification that may result in any change to a previous Treatment Agreement requires execution of a new Treatment Agreement.

MAJOR INDUSTRIAL CONTRIBUTOR		SYSTEM RECEIVING WASTE	
NAME: Douglas & Lomason Company		NAME: City of Red Oak	
MAILING ADDRESS: P.O. Box 117, Red Oak, Iowa 51566		MAILING ADDRESS: City Hall, Red Oak, Iowa 51566	
AUTHORIZED REPRESENTATIVE: Gary Rhamy (local)	PHONE NO.: 712-623-4876	AUTHORIZED REPRESENTATIVE: William Haufle	PHONE NO.
S. David Cramer (Corp.)	404-834-6207		

CERTIFICATION OF CONTRIBUTING INDUSTRY

I am the duly authorized representative for the major industrial contributor identified above and state that the proposed discharge to the system receiving waste identified above shall not exceed the quantities listed on page two of this form after EFFECTIVE DATE: Feb. 15, 1986

I further assure that notice of any anticipated increase in pollutants contributed shall be given to the owner of the system identified above sufficiently in advance of such increase to allow this contributor to submit a new treatment agreement to the Department of Water, Air and Waste Management not later than sixty days in advance of the increase or change.

TYPED OR PRINTED NAME	TITLE	SIGNATURE	DATE
S. David Cramer	Mgr. Environmental Services	S. David Cramer	

RECEIVED
'86 JAN 13 PM 1 09
DEPARTMENT OF WATER, AIR AND WASTE MANAGEMENT

CERTIFICATION OF SYSTEM RECEIVING WASTE

I am the duly authorized representative for the facility owner named above and state that the owner agrees to accept the discharge described on page two from the contributor identified above, and accepts responsibility for providing treatment of the volume and quantities described on the reverse in accordance with the provisions of Chapter 455B, Code of Iowa; and the rules of the Department of Water, Air and Waste Management. This agreement is conditioned on the industrial contributor complying with all applicable standards and requirements of the Department of Water, Air and Waste Management and the United States Environmental Protection Agency. This agreement is entered for the purpose of identifying pollutants contributed and limiting the quantity contributed, and shall not otherwise be construed to affect local ordinances, sewer service agreements or fee systems entered into between the parties.

This agreement may be modified or terminated by the owner of the disposal system if additional pollutants or additional quantities or volumes of pollutants are contributed other than identified on the reverse, or because of any condition that requires either a temporary or permanent reduction or elimination of the accepted contribution.

TYPED OR PRINTED NAME	TITLE	SIGNATURE	DATE
Ronald A. Crisp	City Administrator	Ronald A. Crisp	1/25/86

1. PROCESS DESCRIPTION

SPECIFIC MANUFACTURING PROCESS	SIC CODE
Fabricated metal automotive components and parts	34

CONSUMPTION		PRODUCTION	
PRINCIPAL RAW MATERIAL(s)	AMOUNT CONSUMED PER DAY	PRINCIPAL PRODUCTS	AMOUNT PRODUCED PER DAY
Cold Roll Steel	37,000 lbs.	Automotive Hardware	11,400 pieces
		Automotive Car Seat Frames	6,225 pieces

2. HOURLY MAXIMUM FLOW CONTRIBUTION	3. DAYS OF OPERATION PER WEEK	4. HOURS OF OPERATION DURING PEAK DAY OF OPERATION	5. RANGE OF pH LEVEL IN CONTRIBUTION MINIMUM	MAXIMUM
5250 gallons	5	16	6.0	9.0

6. DESCRIPION OF PRETREATMENT PROVIDED

Continuous rinse water neutralization/precipitation and pressure filtration. Also conversion of hexavalent chromium to the trivalent state, precipitation and pressure filtration.

7. DESCRIPTION OF ANY BATCH OR PERIODIC DISCHARGES

None

8. COMPATIBLE WASTE IN CONTRIBUTION

WASTEWATER PARAMETER	AVERAGE	MAXIMUM	DAILY RATE	WASTEWATER PARAMETER	AVERAGE	MAXIMUM	DAILY RATE
Flow (MGD)	0.056	0.084		Ammonia Nitrogen (lbs/day)	n/a	n/a	
BOD_5 (lbs/day)	n/a	n/a		Oil and Grease (mg/L)	n/a	n/a	
Total Suspended Solids (lbs/day)	75	100					
Total Kjeldahl Nitrogen (lbs/day)	n/a	n/a					

9. INCOMPATIBLE WASTE IN CONTRIBUTION

(use blank 8½ X 11 paper to continue this item)

WASTEWATER PARAMETER	AVERAGE		MAXIMUM		HOURLY MAXIMUM	
	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day
Zinc (T)	1.48	0.7	2.61	1.83	2.61	0.114
Chromium (T)	1.71	0.8	2.77	1.94	2.77	0.121

WATER QUALITY OPERATION PERMIT APPLICATION

PROGRAM | TREATMENT AGREEMENT

WAWM USE

IOWA FACILITY NO.

IND. CONT. AGREEMENT NO.

REPLACES AGREEMENT NO.

NOTICE

A properly executed Treatment Agreement must be submitted by the contributor not less than one hundred eighty (180) days before the new major contributing industry proposes to discharge into a wastewater disposal system. Any proposed expansion, production increase or process modification that may result in any change to a previous Treatment Agreement requires execution of a new Treatment Agreement.

MAJOR INDUSTRIAL CONTRIBUTOR		SYSTEM RECEIVING WASTE	
NAME: DOUGLAS & LOMASON COMPANY		NAME: CITY of RED OAK	
MAILING ADDRESS: P.O.BOX 20783, ATLANTA,GA 30320		MAILING ADDRESS: 601 6th Street, Red Oak,IA 51566	
AUTHORIZED REPRESENTATIVE: RAYMOND L.OSBORNE	PHONE NO.: 404-349-7000	AUTHORIZED REPRESENTATIVE: RONALD A. CRISP	PHONE NO.: 712 623-5474

CERTIFICATION OF CONTRIBUTING INDUSTRY

I am the duly authorized representative for the major industrial contributor identified above and state that the proposed discharge to the system receiving waste identified above shall not exceed the quantities listed on page two of this form after EFFECTIVE DATE: March 13, 1989

I further assure that notice of any anticipated increase in pollutants contributed shall be given to the owner of the system identified above sufficiently in advance of such increase to allow this contributor to submit a new treatment agreement to the Department of Water, Air and Waste Management not later than sixty days in advance of the increase or change.

TYPED OR PRINTED NAME	TITLE	SIGNATURE	DATE
RAYMOND L. OSBORNE	CORPORATE ENVIRONMENTAL SPECIALIST	Raymond L. Osborne	3-2-89

CERTIFICATION OF SYSTEM RECEIVING WASTE

I am the duly authorized representative for the facility owner named above and state that the owner agrees to accept the discharge described on page two from the contributor identified above, and accepts responsibility for providing treatment of the volume and quantities described on the reverse in accordance with the provisions of Chapter 455B, Code of Iowa, and the rules of the Department of Water, Air and Waste Management. This agreement is conditioned on the industrial contributor complying with all applicable standards and requirements of the Department of Water, Air and Waste Management and the United States Environmental Protection Agency. This agreement is entered for the purpose of identifying pollutants contributed and limiting the quantity contributed, and shall not otherwise be construed to affect local ordinances, sewer service agreements or fee systems entered into between the parties.

This agreement may be modified or terminated by the owner of the disposal system if additional pollutants or additional quantities or volumes of pollutants are contributed other than identified on the reverse, or because of any condition that requires either a temporary or permanent reduction or elimination of the accepted contribution.

TYPED OR PRINTED NAME	TITLE	SIGNATURE	DATE
RONALD A. CRISP	CITY ADMINISTRATOR	Ronald A. Crisp	3/7/89

1. PROCESS DESCRIPTION

SPECIFIC MANUFACTURING PROCESS: Fabricated metal automotive components & parts

SIC CODE: 3714

CONSUMPTION		PRODUCTION	
PRINCIPAL RAW MATERIAL(s)	AMOUNT CONSUMED PER DAY	PRINCIPAL PRODUCTS	AMOUNT PRODUCED PER DAY
Cold Roll Steel	37,000	Automotive Hardware Automotive Car Seat Frames	11,400pieces 6,225pieces

2. HOURLY MAXIMUM FLOW CONTRIBUTION	3. DAYS OF OPERATION PER WEEK	4. HOURS OF OPERATION DURING PEAK DAY OF OPERATION	5. RANGE OF pH LEVEL IN CONTRIBUTION	
			MINIMUM	MAXIMUM
5250	5	16	6.0	9.0

6. DESCRIPION OF PRETREATMENT PROVIDED

Continuous rinse water neutralization and solids removal.

See Attachments A, B, C, & D.

7. DESCRIPTION OF ANY BATCH OR PERIODIC DISCHARGES

Batch treatment of zinc contaminated rinse water from Black Phosphate System and solids removal from the Autophoretic Coating System.

See Attachments A, B, C, & D.

8. COMPATIBLE WASTE IN CONTRIBUTION

WASTEWATER PARAMETER	AVERAGE	MAXIMUM	DAILY RATE	WASTEWATER PARAMETER	AVERAGE	MAXIMUM	DAILY RATE
Flow (MGD)	0.056	0.084		Ammonia Nitrogen (lbs/day)	N/A	N/A	
BOD_5 (lbs/day)	N/A	N/A		Oil and Grease (mg/L)	N/A	N/A	
Total Suspended Solids (lbs/day)	75	100					
Total Kjeldahl Nitrogen (lbs/day)	N/A	N/A					

9. INCOMPATIBLE WASTE IN CONTRIBUTION

(use blank 8½ X 11 paper to continue this item)

WASTEWATER PARAMETER	AVERAGE		MAXIMUM		HOURLY MAXIMUM	
	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day
Zinc (T)	1.48	0.7	2.61	1.83	2.61	0.114
Chromium (T)	1.71	0.8	2.77	1.94	2.77	0.121

Authorization From The Iowa Department Of Natural Resources
To Discharge Under The National Pollutant Discharge Elimination System

PERMITTEE

City of Red Oak
City Hall
Red Oak, Iowa 51566

IDENTITY AND LOCATION OF FACILITY

Red Oak Wastewater Treatment Facility
Section 29, T72N, R38W
Montgomery County, Iowa

IOWA NPDES PERMIT NUMBER 69-50-0-01

DATE OF ISSUANCE JUN 18 1987

RECEIVING WATERCOURSE CLASSIFICATION
East Nishnabotna River tributary to the Nishnabotna River.

DATE OF EXPIRATION December 1, 1991

YOU ARE REQUIRED TO FILE RENEWAL OF THIS PERMIT BY June 1, 1991

THE CLASSIFIED STREAM IS the East Nishnabotna River from the mouth in Fremont County to Audubon County Road F32 (North line of Section 23, T80N, R35W, Audubon County), which is classified B(w). Class "B" waters are to be protected for wildlife, fish, aquatic and semiaquatic life.

EPA NUMBER - IA0040266

This permit is issued pursuant to the authority of section 402(b) of the Clean Water Act (33 U.S.C. 1342(b)), Iowa Code section 455B.174, and rule 900-64.3, Iowa Administrative Code. You are authorized to operate the disposal system and to discharge the pollutants specified in this permit in accordance with the effluent limitations, monitoring requirements and other terms set forth in this permit.

You may appeal any conditions of this permit by filing a written notice of appeal and request for administrative hearing with the executive director of this Department within 30 days of your receipt of this permit.

Any existing, unexpired Iowa operation permit or Iowa NPDES permit previously issued by the Department for the facility identified above is revoked by the issuance of this Iowa NPDES operation permit unless the facility is being upgraded or replaced by a new facility, then the existing permit will remain in effect until the new facility is completed and in operation.

OUTFALL SERIAL NO.	DESCRIPTION
001	Discharge from a Bio Tower/trickling filter wastewater treatment facility with anaerobic digester, flow equalization basin, primary, intermediate and final clarification.

NJR:pla/86-390.03

Facility Name: City of Red Oak
Iowa NPDES Permit Number: 69-50-0-01

EFFLUENT LIMITATIONS FOR CONTINUOUS DISCHARGE FACILITIES

You are prohibited from discharging pollutants more frequently or in excess of the limitations specified below:

OUTFALL SERIAL NUMBER	WASTEWATER PARAMETER		SUMMER (April 1 - October 31)			WINTER (November 1 - March 31)		
			30-Day Average	Maximum	7-Day Average	30-Day Average	Maximum	7-Day Average
001	Flow (million gallons/day)		2.2**	3.5**	-----	2.2**	3.5**	-----
	$CBOD_5$*	(mg/l)	25	-----	40	25	-----	40
		(lbs/day)	459	-----	734	459	-----	734
	Suspended Solids*	(mg/l)	30	-----	45	30	-----	45
		(lbs/day)	550	-----	826	550	-----	826
	Ammonia Nitrogen (N)	(mg/l)	-----	-----	-----	-----	-----	-----
		(lbs/day)	192	-----	288	-----	-----	-----
	pH (Allowable Range)		Minimum 6.0 - Maximum 9.0			Minimum 6.0 - Maximum 9.0		
	* A monthly average removal rate of 85% is also required. ** These flows represent the design capacity of the mechanical facility. A flow of 10 MGD can be received by the total system prior to diverting a portion of the flow to the flow equalization basin.							

DEFINITIONS

1. "30-day average" means the sum of the total daily discharge by mass, volume or concentration during a calendar month, divided by the total number of days during the month that measurements were made.

2. "7-day average" means the sum of the total daily discharges by mass, volume or concentration during a calendar week, divided by the total number of days during the week that measurements were made.

3. "Maximum" means the total discharge by mass, volume or concentration which cannot be exceeded during a twenty-four hour period.

NJR:pla/86-390.04

Facility Name: City of Red Oak
Iowa NPDES Permit Number: 69-50-0-01

MONITORING AND REPORTING REQUIREMENTS FOR CONTINUOUS DISCHARGE FACILITIES

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) "Standard Methods", "EPA Methods", or "ASTM", as defined in rule 60.2, or other analytical and sampling methods as specified in Table VII of Chapter 63 of the rules, or other methods approved in writing by the Department, shall be utilized.

(c) Table II & III of Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

(d) Bypasses shall be reported in accordance with rule 63.5.

(e) You are required to monitor your wastewater as specified below. Results of all monitoring shall be recorded on forms provided by the Department, and submitted to the Department by the fifteenth day following the close of the reporting period. Your reporting period is on a monthly basis, ending on the last day of each month.

WASTEWATER PARAMETER	FREQUENCY	SAMPLE TYPE	SAMPLING LOCATION
Flow	Daily	24-hour Total	a, b
	3/week	24-hour Total	c
$CBOD_5$	2/week	24-hour Comp.	a, b
Total Suspended Solids	1/week	24-hour Comp.	a, b
Ammonia Nitrogen (N)*	2/week	24-hour Comp.	b
pH	3/week	grab	d
	2/week	grab	a, b
Temperature	3/week	grab	d
	2/week	grab	a, b
Settleable Solids	3/week	grab	b
Alkalinity	1/week	grab	d
Volatile Acids	1/week	grab	d
* Only required from April 1 to October 31.			

Samples collected in compliance with the monitoring requirements specified above shall be obtained at the following designated locations:

a) Raw influent prior to diversion to the flow equalization basin.
b) Final effluent.
c) Recirculation flow on the trickling filter.✓
d) Digester contents.

NJR:pla/86-390.05

CONDITIONS, LIMITATIONS AND MONITORING REQUIREMENTS FOR CONTRIBUTING COMMERCIAL/INDUSTRIAL USERS

1. You shall provide notice to the executive director.

   (a) 180 days in advance of any new introduction of pollutants into your facility from a source which would be a new source as defined in Section 306 of the Clean Water Act if such source were discharging pollutants.

   (b) 180 days in advance of any new introduction of pollutants into your facility from a major contributing industry. A major contributing industry is defined as any source which would be subject to Section 301 of the Clean Water Act if such source were discharging pollutants, and:

      (1) Has a flow of 50,000 gallons or more per average work day;

      (2) Contributes greater than five percent of the flow carried by the treatment works receiving the waste;

      (3) Contributes toxic materials which may adversely affect the treatment process; or

      (4) Contributes any waste which may have an adverse or deleterious impact on the treatment facility.

   (c) 60 days in advance of substantial change in volume or character of pollutants being introduced into your facility by a source introducing pollutants at the time of issuance of this permit.

   (d) 10 days in advance of any commitment by you to accept waste from a proposed new major contributing industry.

   Such notice shall include information on the quality and quantity of wastes to be introduced into your facility and any anticipated impact of such change in the quantity or quality of effluent to be discharged from your facility. Notice involving major contributing industries and existing contributors which will become major contributing industries shall include a treatment agreement in accordance with rule 900--64.3(5).

2. You shall require any additional user of your facility to comply with the requirements of Section 204(b), 307 and 308 of the Clean Water Act. As a means of insuring such compliance, you shall require that each industrial user subject to the requirements of Section 307 of the Act give you periodic notice (over intervals not to exceed six months) of progress towards full compliance with Section 307 requirements. You shall forward a copy of any such notice to the director.

3. You shall limit and monitor pollutants for each facility specified below:

CONTRIBUTOR	WASTEWATER PARAMETER		30-Day AVERAGE	DAILY MAX.	SAMPLE PERIOD	SAMPLE TYPE	SAMPLE LOCALE
Douglas & Lomason Co. SIC Code: 3400	Flow (MGD)		0.056.	0.084	1/week	24-hour Total	b
	Total Suspended Solids (lbs/day)		75	100	1/3 months	24-hour Comp.	b
	pH (Range)		6 to 9		1/month	grab	b
	Total Chrome	mg/l	1.71	2.77	1/week	24-hour Comp.	b
		lbs/day	0.8	1.94			
	Total Zinc	mg/l	1.48	2.61	1/week	24-hour Comp.	b
		lbs/day	0.7	1.83			
Eveready Battery SIC Code: 3692	Flow (MGD)		0.053	0.085	daily	24-hour Total	a
			0.003	0.005	1/week	24-hour Total	c
	Temperature		-------	------	1/month	grab	a
	pH (Range)		6 to 9		1/month	grab	a
	Total Zinc	mg/l	0.8	------	1/week	24-hour Comp.	c
		lbs/day	0.02	------			
	BOD_5 (lbs/day)		60	71	1/month	24-hour Comp.	a
	Total Suspended Solids (lbs/day)		50	59	1/3 months	24-hour Comp.	a
	Oil & Grease (mg/l)		64.5	------	1/3 months	grab	a

Sample Location Code:
a) Effluent (waste) prior to discharge to municipal collection system.
b) Combined effluent from the pretreatment system and washer rinse but prior to mixing with other waste stream flows.
c) Effluent (waste) from the pretreatment on the zinc chloride recovery process prior to mixing with any other waste stream flows.

NJR:pla/86-390.06

1. DEFINITIONS
"Maximum" means the total discharge by mass, volume or concentration which cannot be exceeded during a twenty-four hour period.
"30 day average" means the sum of the total daily discharges by mass, volume or concentration during a calendar month, divided by the total number of days during the month that measurements were made.
"7 day average" means the sum of the total daily discharges by mass, volume or concentration during a calendar week, divided by the total number of days durng the week that measurements were made.
2. NOTICE OF CHANGED CONDITIONS
You are required to report any changes in existing conditions or information on which this permit is based.
(a) Facility expansions, production increases or process modifications which may result in new or increased discharges of pollutants must be reported to the director in advance. If such discharges exceed effluent limitations, your report must include a new application for NPDES permit. (See rule 64.6(5)"a".)
(b) If any modification of, addition to, or construction of a disposal system is to be made, you must first obtain a written permit from this department, in accordance with rule 64.2.
(c) Bypasses shall be reported in accordance with rule 63.5.
(d) If your facility is a publicly owned treatment works or otherwise may accept waste for treatment from commercial or industrial contributors, see CONDITIONS, LIMITATIONS AND MONITORING REQUIREMENTS FOR CONTRIBUTING COMMERCIAL/INDUSTRIAL USERS for further notice requirements. [See rule 64.3(5)]
3. PERMIT MODIFICATION, SUSPENSION OR REVOCATION
(a) This permit may be modified, suspended or revoked for causes specified in rule 64.3(11).
(b) This permit may be modified due to changed conditions or information on which this permit is based.
(c) If a toxic pollutant is present in your discharge and more stringent standards for toxic pollutants are established under section 307(a) of the Clean Water Act, this permit will be modified in accordance with the new standards. (See rule 64.6(5)"g".)
4. INSPECTION OF PREMISES, RECORDS, EQUIPMENT, METHODS AND DISCHARGES
You are required to permit authorized department personnel to inspect in accordance with rule 64.6(5)"c".
5. OPERATION AND MAINTENANCE
All facilities and control systems shall be operated as efficiently as possible and maintained in good working order, in accordance with rule 64.6(5)"f", and a sufficient number of staff, adequately trained and knowledgeable in the operation of your facility shall be retained to achieve compliance with the terms of this permit.
6. NEED TO HALT OR REDUCE NOT A DEFENSE
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
7. TRANSER OF TITLE
If title to your facility or any part of it is transferred, the new owner shall be subject to this permit. You are required to notify the new owner of the requirements of this permit in writing prior to such transfer of title. The director shall be notified in writing of such transfer within 30 days. (See rule 64.13.)
8. SEVERABILITY
The provisions of this permit are severable, and if any provision or application of any provision to any circumstances, is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding.
9. APPLICATION OF OTHER AUTHORITY
This permit does not relieve you of the responsibility to comply with all local, state and federal laws, ordinances, regulations or other legal requirements applying to the operation of your facility.
10. ADMINISTRATIVE RULES
Rules of this department which govern your facility operation in connection with this permit are published in part 900 of the Iowa Administrative Code in Chapters 60-64. Reference to the term "rule" in this permit means the designated provision of part 900 Iowa Administrative Code.
11. DUTY TO MITIGATE
The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
12. MAINTENANCE OF RECORDS AND SIGNATORY REQUIREMENTS
You are required to maintain records of your operation in accordance with rule 63.2. Also all applications, reports, or information submitted to the Department shall be signed and certified. [See rule 63.10 & 64.3(8)]
13. CHANGES IN DISCHARGES OF TOXIC SUBSTANCES
You shall notify the Director as soon as you know or have reason to believe:
a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit. (See 40 CFR 122.42(a).
b) That you have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

You may appeal any conditions of this permit by filing a written notice of appeal and request for administrative hearing with the director of this department within 30 days of your receipt of this permit. Contact the Iowa Department of Natural Resources for extra report forms, details on performing monitoring, or any additional information at the Wallace Building, 900 E. Grand Ave., Des Moines, Iowa 50319, or phone 515/281-8693.

FOR THE DEPARTMENT OF NATURAL RESOURCES

Larry J. Wilson, Director

By Lavoy Haage
Lavoy Haage, Supervisor
Wastewater Permits Section
ENVIRONMENTAL PROTECTION DIVISION

DISTRIBUTION
1 - County Sanitarian
1 - Wastewater Permits Section
1 - Region

APPENDIX D

SPECIAL WASTE AUTHORIZATIONS

Iowa department of water, air and waste management

To: Philip K. Mellott
Nishna Sanitary Services
706 W. 2nd St.
Red Oak, IA 51566

Authorization No. 69010714R.01

SPECIAL WASTE AUTHORIZATION

Disposal Site: Montgomery County Landfill (69-SDP-1-74P)

The following and attached instructions 21.1 apply ONLY to the specific waste described and to the volume and time period specified. This is not an overall approval to accept other toxic and hazardous wastes or industrial sludges. WAWM must authorize the disposal of such additional wastes from the same generator or similar wastes from a different generator. Failure to obtain this approval is a violation of Solid Waste Disposal Rule 102.14. These instructions in no way obligate the above-named disposal site to accept the described waste. The disposal site has the final decisions whether to accept the waste, and does so at its own risk. This form shall be kept in the office at the sanitary landfill for review by WAWM personnel. Each disposal shall be recorded on the reverse of this form and reported in accordance with the reporting requirements contained in the landfill's permit.

By delivery of this waste, the waste generator certifies that the intended disposal of the described waste is in compliance with all RCRA hazardous waste regulations.

Waste and Volume: 500 lbs. once and 1,000 lbs. every 2 months thereafter of washer sludge from the cleaning of automobile seat frames. Note that the material shall not contain hazardous materials and that the waste must be at least 80% solids prior to landfilling.

Generator: Douglas & Lomason, 2700 N. Broadway, P.O. Box 117, Red Oak, IA 51566, Contact: David Cramer, Phone: 404/834-6207

Disposal Period: Until January 24, 1989

Landfill Operator: Tom Moss, Phone: 712/623-9903

If you have any questions regarding this authorization, please contact James A. Horn at 515/281-8964.

Authorized by: Bruce E. Henning Date: 7/14/86
Bruce E. Henning, P.E., Supervisor
Solid Waste Section

BEH:JAH:mla/AWPW192F14.01
cc: Tom Moss, Landfill Operator
David Cramer, Douglas & Lomason, Red Oak
Region 4
Jim Horn/Paul Lundy/Records

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR & LAND QUALITY DIVISION

SPECIAL WASTE AUTHORIZATION

Disposal Site: Montgomery County Sanitary Landfill

The following instructions apply ONLY to the specific waste described and to the volume and time period specified. This is not an overall approval to accept other toxic and hazardous wastes or industrial sludges. DEQ must authorize the disposal of such additional wastes from the same generator or similar wastes from a different generator. Failure to obtain this approval is a violation of Solid Waste Disposal Rule 27.14. These instructions in no way obligate the above-named disposal site to accept the described waste. The disposal site has the final decision whether to accept the waste, and does so at its own risk. This form shall be kept in the office at the sanitary landfill for review by DEQ personnel. Each disposal shall be recorded on the reverse of this form and reported in accordance with departmental requirements.

By delivery of this waste, the waste generator certifies that the intended disposal of the described waste is in compliance with all RCRA hazardous waste regulations.

Waste and Volume: 700 pounds per month average, but not to exceed 1400 pounds delivered in any one month of Trivalent Chromium Hydroxide Filtrate Sludge.

Generator: Dr[illegible] Co[illegible], 2[illegible] N. Br[illegible], Red Oak, IA 51[illegible], Mr. Ji[illegible], Jr. at 1-712/[illegible]

Disposal Period: August 1, 1982 to August 1, 1983, at the convenience of the landfill operator Mr. Tom Moss at 712/623-[illegible].

Instructions:

1. The generator shall pre-arrange a delivery schedule with the landfill operator.
2. The hauler shall identify the waste to the landfill attendant upon arrival at the landfill.
3. The landfill operator shall direct the hauler to the working face.
4. Dispose of the waste as soon as possible, cover with regular refuse and/or soil as directed.
5. The containers may be put in the working face or returned to the generator.

Department contact for this authorization: Lynn Hall or George Mills at 515/281-8502

Authorization: 690109228 2-2

[illegible] 9/22/82

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR & LAND QUALITY DIVISION

SPECIAL WASTE AUTHORIZATION

Disposal Site: Montgomery County Sanitary Landfill (69-SDP-1-74P)

The following instructions apply ONLY to the specific waste described and to the volume and time period specified. This is not an overall approval to accept other toxic and hazardous wastes or industrial sludges. DEQ must authorize the disposal of such additional wastes from the same generator or similar wastes from a different generator. Failure to obtain this approval is a violation of Solid Waste Disposal Rule 27.14. These instructions in no way obligate the above-named disposal site to accept the described waste. The disposal site has the final decision whether to accept the waste, and does so at its own risk. This form shall be kept in the office at the sanitary landfill for review by DEQ personnel. Each disposal shall be recorded on the reverse of this form and reported in accordance with departmental requirements.

By delivery of this waste, the waste generator certifies that the intended disposal of the described waste is in compliance with all RCRA hazardous waste regulations.

Waste and Volume: 200 pounds per month average, but not to exceed 400 pounds delivered in any one month of Paint Sludge.

Generator: Douglas & Lomason Company, 2700 N. Broadway, Red Oak, IA 51566, Mr. Jim Schwend, Jr. at 1-712/623-4876.

Disposal Periods: August 1, 1982 to August 1, 1983, at the convenience of the landfill operator Mr. Tom Moss at 712/623-9866.

Instructions:

1. The generator shall pre-arrange a disposal schedule including times of delivery and quantities of waste, with the landfill operator. The generator may be requested to stockpile the waste during periods of inclement weather or limit waste deliveries to dry weather.
2. The hauler shall identify the waste to the landfill operator upon arrival with the waste materials.
3. The landfill operator shall prepare an excavation area for the waste by constructing a dike area or a suitable soil structure which is of sufficient size to contain the waste material. The excavation area(s) shall be located on a dry section of the landfill property which is devoted to the landfill operation. (See Safety Rules.)

Department contact for this authorization: Lynn Hall or George Welch at 515/281-8852

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
LARRY J. WILSON, DIRECTOR

To: Nishna Sanitary Services
Philip K. Mellott
P.O.Box 448
Red Oak, IA 51566

Authorization No. 6901052489

SPECIAL WASTE AUTHORIZATION

Disposal Site: Montgomery County Landfill (69-SDP-1-74P)

The following and attached instructions 21.1 apply ONLY to the specific waste described and to the volume and time period specified. This is not an overall approval to accept other toxic or hazardous wastes or industrial sludges. DNR must authorize the disposal of such additional wastes from the same generator or similar wastes from a different generator. Failure to obtain this approval is a violation of Solid Waste Disposal Rule 102.14. These instruction in no way obligate the above-named disposal site to accept the described waste. The disposal site has the final decisions whether to accept the waste, and does so at its own risk. This form shall be kept in the office of the sanitary landfill for review by DNR personnel. Each disposal shall be recorded on the reverse of this form and reported in accordance with the reporting requirements contained in the landfill's permit.

By delivery of this waste, the waste generator certifies that the intended disposal of the described waste is in compliance with all RCRA hazardous waste regulations.

Waste and Volume:	Approximately 2,500 lbs. each week of wastewater treatment plant sludge (carbon & zinc) and 10,000 lbs. of wastewater treatment plant sludge stockpiled.
Generator:	Douglas & Lomason Company, P.O.Box 117, 2700 N Broadway, Red Oak, IA 51566 Ray Osborne 404/349-7000
Disposal Period:	Until November 25, 1989 (additional time to be added later upon request from generator, your SWA is good for 3 years)
Landfill Operator:	Tom Moss 712/623-9903

If you have any questions regarding this authorization, please contact Jim Thayer at 515/281-3426.

Authorized by: Marvin Pruetz Date: 5/24/89
Supervisor, Solid Waste Section

cc: Field Office - 4
Ray Osborne,Douglas & Lomason Co
Douglas & Lomason Company, Red Oak, IA
Tom Moss, Landfill Operator
Rod Vlieger, Hickok & Associates
Jim Thayer/Record

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
LARRY J. WILSON, DIRECTOR

To: Nishna Sanitary Services
Philip K. Mellott
P.O.Box 448
Red Oak, IA 51566

Authorization No. 690107189

SPECIAL WASTE AUTHORIZATION

Disposal Site: Montgomery County Landfill (69-SDP-1-74P)

The following and attached instructions 21.1 apply ONLY to the specific waste described and to the volume and time period specified. This is not an overall approval to accept other toxic or hazardous wastes or industrial sludges. DNR must authorize the disposal of such additional wastes from the same generator or similar wastes from a different generator. Failure to obtain this approval is a violation of Solid Waste Disposal Rule 102.14. These instruction in no way obligate the above-named disposal site to accept the described waste. The disposal site has the final decisions whether to accept the waste, and does so at its own risk. This form shall be kept in the office of the sanitary landfill for review by DNR personnel. Each disposal shall be recorded on the reverse of this form and reported in accordance with the reporting requirements contained in the landfill's permit.

By delivery of this waste, the waste generator certifies that the intended disposal of the described waste is in compliance with all RCRA hazardous waste regulations.

Waste and Volume:	Approximately 1,000 lbs. per month of zinc phosphator tank sludge and 5,000 lbs. of zinc phosphator tank sludge stockpiled.
Generator:	Douglas & Lomason Company, P.O.Box 117, 2700 N. Broadway, Red Oak, IA 51566 Ray Osborne 404/349-7000
Disposal Period:	Until January 18, 1990 (additional time to be added later upon request from the generator, the SWA is good for 3 years)
Landfill Operator:	Tom Moss 712/623-9903

If you have any questions regarding this authorization, please contact Jim Thayer at 515/281-3426.

Authorized by: Morris L. Preston Date: July 17, 1989
Supervisor, Solid Waste Section

cc: Field Office - 4
Ray Osborne, Douglas & Lomason Company, Atlanta, GA
Douglas & Lomason Comapny, Red Oak, IA
Rod Vlieger, Hickok & Assoc.
Tom Moss, Landfill Operator
Jim Thayer, Richmond

APPENDIX E

MSDS FOR PAINTING OPERATIONS

MATERIAL SAFETY DATA SHEET

UNOCAL

UNOCAL CHEMICALS DIVISION
PETROCHEMICALS GROUP

Product Name: REGULAR MINERAL SPIRITS
Product Code No: 11005

Issue Date: 10/12/88

MANUFACTURER:

UNOCAL CHEMICALS DIVISION
UNION OIL COMPANY OF CALIFORNIA
1345 N. MEACHAM
SCHAUMBURG, ILLINOIS 60196

CONTACT FOR FURTHER INFORMATION:
MSDS COORDINATOR (312) 619-2644

Transportation Emergencies:
Call CHEMTREC
(800) 424-9300 Cont. U.S.
(202) 483-7616 (Collect)
from Alaska & Hawaii
Health Emergencies:
CALL LOS ANGELES POISON
INFORMATION CENTER (24 hrs.)
1-(800)-356-3129

PRODUCT IDENTIFICATION

PRODUCT NAME: REGULAR MINERAL SPIRITS

SYNONYMS: AMSCO SOLV 1005
MINERAL SPIRITS REGULAR

GENERIC NAME: VOLATILE SOLVENT

CHEMICAL FAMILY: HYDROCARBON MIXTURE

DOT PROPER SHIPPING NAME: PETROLEUM NAPHTHA

ID NUMBER: UN1255

DOT HAZARD CLASSIFICATION: COMBUSTIBLE LIQUID

CAS NUMBER: 64741-41-9

SECTION I - HAZARDOUS INGREDIENTS/EXPOSURE LIMITS	CAS NO	LIMITS	UNITS	AGENCY	TYPE
REGULAR MINERAL SPIRITS (COMPARE TO STODDARD		100.0000	PPM	ACGIH	TWA
SOLVENT 8052-41-3)		200.0000	PPM	ACGIH	STEL
		500.0000	PPM	OSHA	TWA

SECTION II - EMERGENCY AND FIRST AID PROCEDURES

EMERGENCY
Have physician call LOS ANGELES POISON INFORMATION CENTER (24 hrs.) (800) 356-3129

EYE CONTACT:

IF IRRITATION OR REDNESS FROM EXPOSURE TO VAPORS DEVELOPS, MOVE VICTIM AWAY FROM EXPOSURE AND INTO FRESH AIR. IF IRRITATION OR REDNESS PERSISTS, SEEK MEDICAL ATTENTION. FOR DIRECT CONTACT, HOLD EYELIDS APART AND FLUSH THE AFFECTED EYE(S) WITH CLEAN WATER. SEEK MEDICAL ATTENTION.

SECTION II - EMERGENCY AND FIRST AID PROCEDURES

EMERGENCY
Have physician call LOS ANGELES POISON INFORMATION CENTER (24 hrs.) (800) 356-3129

SKIN CONTACT:

REMOVE CONTAMINATED CLOTHING. CLEANSE AFFECTED AREA(S) THOROUGHLY BY WASHING WITH MILD SOAP AND WATER. IF IRRITATION OR REDNESS DEVELOPS AND PERSISTS, SEEK MEDICAL ATTENTION.

INHALATION (BREATHING):

IF IRRITATION OF NOSE OR THROAT DEVELOPS, MOVE VICTIM AWAY FROM SOURCE OF EXPOSURE AND INTO FRESH AIR. IF SYMPTOMS PERSIST, SEEK MEDICAL ATTENTION. IF VICTIM IS NOT BREATHING, ARTIFICIAL RESPIRATION SHOULD BE ADMINISTERED. IF BREATHING DIFFICULTIES DEVELOP, OXYGEN SHOULD BE ADMINISTERED BY QUALIFIED PERSONNEL. SEEK IMMEDIATE MEDICAL ATTENTION.

INGESTION (SWALLOWING):

ASPIRATION HAZARD: DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH BECAUSE THIS MATERIAL CAN ENTER THE LUNGS AND CAUSE SEVERE LUNG DAMAGE. IF VICTIM IS DROWSY OR UNCONSCIOUS, PLACE ON THE LEFT SIDE WITH THE HEAD DOWN. IF POSSIBLE, DO NOT LEAVE VICTIM UNATTENDED. SEEK MEDICAL ATTENTION.

SECTION III - HEALTH HAZARDS/ROUTES OF ENTRY

EYE CONTACT:

THIS MATERIAL MAY CAUSE EYE IRRITATION. DIRECT CONTACT WITH THE LIQUID OR EXPOSURE TO VAPORS OR MISTS MAY CAUSE STINGING, TEARING AND REDNESS.

SKIN CONTACT:

THIS MATERIAL MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY CAUSE REDNESS, BURNING, AND DRYING AND CRACKING OF THE SKIN. NO HARMFUL EFFECTS HAVE BEEN DEMONSTRATED IN SKIN ABSORPTION STUDIES. PERSONS WITH PRE-EXISTING SKIN DISORDERS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS MATERIAL.

INHALATION (BREATHING):

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, BREATHING HIGH CONCENTRATIONS OF VAPORS OR MISTS MAY CAUSE IRRITATION OF THE NOSE, THROAT AND SIGNS OF NERVOUS SYSTEM DEPRESSION (E.G., DROWSINESS, DIZZINESS, LOSS OF COORDINATION, AND FATIGUE). RESPIRATORY SYMPTOMS ASSOCIATED WITH PRE-EXISTING LUNG DISORDERS (E.G., ASTHMA-LIKE CONDITIONS) MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.

INGESTION (SWALLOWING):

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, INGESTION OF EXCESSIVE QUANTITIES MAY CAUSE IRRITATION OF THE DIGESTIVE TRACT AND SIGNS OF NERVOUS SYSTEM DEPRESSION (E.G., DROWSINESS, DIZZINESS, LOSS OF COORDINATION, AND FATIGUE). ASPIRATION HAZARD - THIS MATERIAL CAN ENTER LUNGS DURING SWALLOWING OR VOMITING AND CAUSE LUNG INFLAMMATION AND DAMAGE.

COMMENTS:

THIS SUBSTANCE HAS NOT BEEN IDENTIFIED AS A CARCINOGEN OR PROBABLE CARCINOGEN BY NTP, IARC OR OSHA.
REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE (SOMETIMES REFERRED TO AS SOLVENT OR PAINTERS' SYNDROME). INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THIS PRODUCT MAY BE HARMFUL OR FATAL.

SECTION IV - SPECIAL PROTECTION INFORMATION

VENTILATION:

IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE TO MAINTAIN AIRBORNE CONCENTRATIONS BELOW THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I), ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED. WHERE EXPLOSIVE MIXTURES MAY BE PRESENT, SYSTEMS SAFE FOR SUCH LOCATIONS SHOULD BE USED.

RESPIRATORY PROTECTION:

THE USE OF RESPIRATORY PROTECTION IS ADVISED WHEN CONCENTRATIONS EXCEED THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I). DEPENDING ON THE AIRBORNE CONCENTRATION, USE A RESPIRATOR OR GAS MASK WITH APPROPRIATE CARTRIDGES AND CANNISTERS (NIOSH APPROVED, IF AVAILABLE) OR SUPPLIED AIR EQUIPMENT.

PROTECTIVE GLOVES:

THE USE OF GLOVES IMPERMEABLE TO THE SPECIFIC MATERIAL HANDLED IS ADVISED TO PREVENT SKIN CONTACT AND POSSIBLE IRRITATION.

EYE PROTECTION:

APPROVED EYE PROTECTION TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY IS RECOMMENDED.

OTHER PROTECTIVE EQUIPMENT:

IT IS SUGGESTED THAT A SOURCE OF CLEAN WATER BE AVAILABLE IN WORK AREA FOR FLUSHING EYES AND SKIN. IMPERVIOUS CLOTHING SHOULD BE WORN AS NEEDED.

SECTION V - REACTIVITY DATA

STABILITY:

STABLE

INCOMPATIBILITY (MATERIALS TO AVOID):

THIS PRODUCT IS INCOMPATIBLE WITH STRONG ACIDS OR BASES, OXIDIZING AGENTS AND SELECTED AMINES.

HAZARDOUS DECOMPOSITION PRODUCTS:

COMBUSTION MAY YIELD CARBON MONOXIDE AND/OR CARBON DIOXIDE.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

SECTION VI - SPILL OR LEAK PROCEDURES

HIGHWAY OR RAILWAY SPILLS
Call CHEMTREC (800) 424-9300 Cont. U.S.
(Collect) (202) 483-7616 from Alaska & Hawa

PRECAUTIONS IN CASE OF RELEASE OR SPILL:

STAY UPWIND AND AWAY FROM SPILL. KEEP ALL SOURCES OF IGNITION AWAY FROM SPILL. IF SPILL IS INDOORS, VENTILATE AREA OF SPILL. KEEP OUT OF DRAINS, SEWERS OR WATERWAYS. USE SAND OR OTHER INERT MATERIAL TO DAM AND CONTAIN SPILL. DO NOT FLUSH AREA WITH WATER. FOR SMALL SPILLS, DO NOT FLUSH WITH WATER; USE ABSORBANT PADS. CONTACT FIRE AUTHORITIES AND APPROPRIATE FEDERAL, STATE OR LOCAL AGENCIES.

SECTION VI - SPILL OR LEAK PROCEDURES

HIGHWAY OR RAILWAY SPILLS
Call CHEMTREC (800) 424-9300 Cont. U.S.
(Collect) (202) 483-7616 from Alaska & Hawa

WASTE DISPOSAL METHOD:

DISPOSE OF PRODUCT IN ACCORDANCE WITH LOCAL, COUNTY, STATE, AND FEDERAL REGULATIONS.

SECTION VII - STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS:

KEEP CONTAINERS TIGHTLY CLOSED. KEEP CONTAINERS COOL, DRY, AND AWAY FROM SOURCES OF IGNITION. USE AND STORE THIS PRODUCT WITH ADEQUATE VENTILATION. AVOID INHALATION OF VAPORS AND PERSONAL CONTACT WITH THE PRODUCT. USE GOOD PERSONAL HYGIENE PRACTICE. "EMPTY" CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. "EMPTY" DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY SHIPPED TO THE SUPPLIER OR A DRUM RECONDITIONER. ALL OTHER CONTAINERS SHOULD BE DISPOSED OF IN AN ENVIRONMENTALLY SAFE MANNER AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS. BEFORE WORKING ON OR IN TANKS WHICH CONTAIN OR HAVE CONTAINED THIS PRODUCT, REFER TO OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ANSI Z49.1, AND OTHER GOVERNMENTAL AND INDUSTRIAL REFERENCES PERTAINING TO CLEANING, REPAIRING, WELDING, OR OTHER CONTEMPLATED OPERATIONS.

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

HAZARD RANKING

NFPA HAZARD CLASS	HEALTH HAZARD: 0 FLAMMABILITY: 2 REACTIVITY: 0 OTHER: -	0 = LEAST 1 = SLIGHT 2 = MODERATE 3 = HIGH 4 = EXTREME	HMIS HAZARD CLASS	HEALTH: 1 FLAM: 2 REACT: 0 P.P.E.: -	

LOWER EXPLOSIVE LIMIT (% VOL.)

0.7

UPPER EXPLOSIVE LIMIT (% VOL.)

6.0

FLASH POINT

101 F

EXTINGUISHING MEDIA:

EXTINGUISH WITH DRY CHEMICAL, CO2 OR FOAM.

FIRE & EXPLOSION HAZARDS:

THIS MATERIAL IS COMBUSTIBLE AND MAY BE IGNITED BY HEAT OR FLAME. THIS MATERIAL WILL BURN, BUT WILL NOT IGNITE READILY.

FIRE FIGHTING PROCEDURES:

THE USE OF A SCBA IS RECOMMENDED FOR FIRE FIGHTERS. WATER SPRAY MAY BE USEFUL IN MINIMIZING VAPORS AND COOLING CONTAINERS EXPOSED TO HEAT AND FLAME. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING PURPOSES.

SECTION IX - PHYSICAL DATA

APPROX. BOILING POINT	VAPOR DENSITY (AIR = 1)	VAPOR PRESSURE
310 TO 405 F	4.9	3.1 MM HG @ 20C

EVAPORATION RATE (N-BUTYL ACETATE = 1)	% VOLATILE	% SOLUBILITY IN WATER
0.12	100%	NEGLIGIBLE (< 5%)

SPECIFIC GRAVITY (TEMP/TEMP)	APPEARANCE	ODOR
0.788 (60F/60F)	CLEAR AND LITTLE IF ANY COLOR	CHARACTERISTIC

SECTION XI - DOCUMENTARY INFORMATION

ISSUE DATE: 10/12/88 PRODUCT CODE NO. 11005

PREV. DATE: 7/ 1/88 PREV. PROD. CODE NO. 1005

MSDS NO: 6299 PREV. MSDS NO: 853

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information in this document is believed to be correct as of the date issued. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

Sumter Coatings
P.O. Box 160
Sumter, SC 29150
EMERGENCY PHONE NO. 803-775-6351
INFORMATION PHONE NO. 803-775-6351

H.M.I.S.
HEALTH 2*
FLAMMABILITY 4
REACTIVITY 0
These ratings should be used only as part of fully implemented H.M.I.S. program.

MATERIAL SAFETY DATA SHEET

SECTION I

DATE OF PREPARATION 5/25/88

TRADE NAME BLACK BAKING ENAMEL L/CF

MANUFACTURER CODE I.D. 68-0440 J1-226-1

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	% BY WGT	CAS NO.		ALLOWABLE EXPOSURE LEVEL PPM	MG/CU.M.	FBR/CC	MPPCF	SKIN	MAC	VP MM HG @ 20 DEG.C
CARBON BLACK	5	1333-86-4	TLV		3.50	na	na	na	na	na
			PEL		3.50	na	na	na	na	
ISOBUTYL ALCOHOL	< 5	78-83-1	TLV	50	150	na	na	na	na	10
			PEL	100	300	na	na	na	na	
XYLENE	15	1330-20-7	TLV	100	435	na	na	na	na	5
			PEL	100	435	na	na	na	na	
FORMALDEHYDE	< 1	50-00-0	TLV	1	1.50	na	na	na	na	na
			PEL	3		na	na	na	na	
MINERAL SPIRITS	35	64742-88-7	TLV	100	525	na	na	na	na	2
			PEL	500	2950	na	na	na	na	
VM&P NAPHTHA	< 5	8030-30-6	TLV	300	1350	na	na	na	na	40
			PEL	500		na	na	na	na	
TOLUENE	15	108-88-3	TLV	100	375	na	na	na	na	22
			PEL	200		na	na	na	na	

na = NOT APPLICABLE
X-SKIN = SKIN ABSORPTION MUST BE CONSIDERED AS A ROUTE OF EXPOSURE
X-MAC = ALLOWABLE EXPOSURE LEVEL SHOULD NOT BE EXCEEDED FOR ANY TIME PERIOD

SECTION III - HEALTH INFORMATION

EFFECTS OF SHORT TERM OVEREXPOSURE

SWALLOWING
Can cause gastrointestinal irritation, nausea, and vomiting. Aspiration of material into lung may cause chemical pneumonitis which can be fatal.

INHALATION
The OSHA permissible ceiling and peak exposure limits for Toluene are 300 ppm and 500ppm(10 min) respectively.
The ACGIH S.T.E.L. for Toluene is 150 ppm.
The ACGIH S.T.E.L. for V M & P Naptha is 3000 ppm.
May cause irritation of the respiratory system, and pulmonary edema which may be delayed in onset.

EYE
May cause eye irritation.

SKIN
May cause defatting and irritation of the skin.

EFFECTS OF REPEATED OVEREXPOSURE
Overexposure to xylene may cause injury to the liver, kidneys, and blood.
Repeated overexposure to toluene may cause liver damage.
Reports have associated prolonged and repeated occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH.
Toluene has been found to cause kidney, lung and spleen damage in laboratory animals.
Formaldehyde is listed as a potential carcinogen by the National Toxicology Program. The American Medical Association has concluded that the principal effect of formaldehyde on humans is sensory irritation to the eyes, nose, and throat. The AMA stated "no nasal tumors that can be decisively attributed to formaldehyde have occured in humans, nor has damage to body sites distant from the site of exposure been evident in humans."

SECTION IV - FIRST AID AND EMERGENCY PROCEDURES

SWALLOWING
If swallowed do not induce vomiting. Call poison control center, hospital emergency room or physician immediately.

INHALATION
Remove to fresh air immediately. If breathing has stopped, give artifi-

SECTION IV - FIRST AID AND EMERGENCY PROCEDURES: (CONTINUED)

INHALATION
cial respiration. Keep warm and quiet. Get medical attention immediately.
EYE
Flush with large amounts of water, lifting upper and lower lids occasionally. Continue for at least 15 minutes. Get medical attention.
SKIN
Ramove contaminated clothing. Wash affected area with soap and water. Obtain medical attention if irritation persists.
NOTES TO PHYSICIAN
Any treatment that might be required for overexposure should be directed at the control of symptoms and the clinical conditions.

SECTION V - PHYSICAL DATA

BOILING RANGE	182 DEG.F. TO 395 DEG.F.				
VAPOR DENSITY	Heavier than air.	% VOLATILE BY VOLUME	76		
EVAPORATION RATE	Slower than ether.	VOC	5.1 lb/gal less water & NPRS*	612 g/l less water	CALCULATED
WEIGHT LB./GAL.	7.4	VOC	21.3 lb/gal solids	2556 g/l solids	CALCULATED

* Negligibly Photochemically Reactive Materials

SECTION VI - FIRE AND EXPLOSION DATA

NFPA FLAMMABILITY CLASSIFICATION FLAMMABLE LIQUID - CLASS IB

FLASHPOINT 20 DEG.F, CALCULATED
EXTINGUISHING MEDIA
Use NFPA Class B Fire extinguishers (carbon dioxide, all purpose dry chemical or alcohol foam) designed to extinguish flammable liquid fires. Polymer foam is preferred for large fires.
UNUSUAL FIRE AND EXPLOSION HAZARDS
During emergency conditions, overexposure to decompostion products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
WARNING! FLAMMABLE.
SPECIAL FIRE FIGHTING PROCEDURES
Firefighters should wear self-contained breathing apparatus. Water may be ineffective, but may be used to cool exposed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable.

SECTION VII - REACTIVITY DATA

STABILITY
Normally stable.
CONDITIONS TO AVOID
Avoid excessive heat and sources of ignition.
INCOMPATABILITY (MATERIALS TO AVOID)
Strong acids or alkaline materials.
HAZARDOUS DECOMPOSITION PRODUCTS
Burning, including when heated by welding or cutting, will produce smoke, carbon monoxide and carbon dioxide.
HAZARDOUS POLYMERIZATION
Will not occur
CONDITIONS TO AVOID
Keep away from heat sparks and flame.

SECTION VIII - ENVIRONMENTAL INFORMATION

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
Keep spectators away. Eliminate all ignition sources (flames, hot surfaces, and sources of electrical, static or frictional sparks). Dike and contain spill with inert material (e.g. sand, earth). Transfer liquids to covered metal containers for recovery or disposal, or remove with inert absorbent. Use only non-sparking tools. Place absorbent diking materials in covered metal containers for disposal. Prevent contamination of sewers, streams, and groundwater with spilled material or used absorbent.
WASTE DISPOSAL
Dispose in accordance with federal, state and local laws. Incinerate only in EPA permitted facility. Do not incinerate closed containers. Observe precautions for disposal of flammable materials. Contaminated absorbant may be disposed in a hazardous waste landfill. Dispose only in accordance with federal, state and local regulations.
RCRA CLASSIFICATION
This product, if discarded directly, would be classified a hazardous waste based on its ignitability characteristic, i.e. has a flash point of 140 deg. F. or less. The proper RCRA classification would be D001.
ENVIRONMENTAL HAZARDS
None known

SECTION IX - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION
Proper selection of respiratory protection depends upon many factors

SECTION IX - PERSONAL PROTECTION INFORMATION: (CONTINUED)

RESPIRATORY PROTECTION
including duration/level of exposure and conditions of use. In general exposure to organic chemicals such as those contaied in this product may not require the use of respiratory protection if used in well ventilated areas. In restricted ventilation areas a NIOSH approved chemical cartridge respirator may be required. Under certain conditions, such as spraying, a mechanical prefilter may also be required. In confined areas use a NIOSH/MSHA approved air supplied respirator. If the TLV's listed in Section II are exceeded use a properly fitted NIOSH/MSHA approved respirator with an appropriate protection factor. Refer to OSHA 29 CFR 1910.134 "Respiratory Protection" and "Respiratory Protection A Manual And Guideline, American Industrial Hygiene Assoc."

ENTILATION
Provide general dilution and local exhaust ventilation in sufficient volume and pattern to mainatin concentrations of hazardous substances listed in Section II below the lowest exposure limits stated.

HAND PROTECTION
Solvent impermeable gloves are required for repeated or prolonged contact.

YE PROTECTION
Wear safety spectacles.

OTHER PROTECTIVE EQUIPMENT
Not likely to be needed.

SECTION X - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Do not store above 95 degrees F. Store large quantities in compliance with OSHA 29CFR1910.106.

THER PRECAUTIONS
Do not take internally. Close container after each use.
Empty containers must not be washed and re-used for any purpose.
Containers should be grounded and bonded to the receiving container.
Do not weld, braze or cut on empty container.
Never use pressure to empty. Drum is not a pressure vessel.

SECTION XI - OTHER INFORMATION

US DOT INFORMATION

HAZARD CLASS: FLAMMABLE LIQUID

ID NUMBER: UN 1263

PROPER SHIPPING NAME: PAINT - FLAMMABLE LIQUID

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. WHILE THE INFORMATION IS BELIEVED TO BE RELIABLE, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SINCE THE USE OF THIS INFORMATION AND THE CONDITIONS AND USE OF THIS PRODUCT ARE CONTROLLED BY THE USER, IT IS THE USER'S OBLIGATION TO DETERMINE THE CONDITIONS OF SAFE USE OF THE PRODUCT.

OUTHERN COATINGS, INC.
P. O. BOX 160
SUMTER, S. C. 29151
TTN: PFD LABORATORY

DUCARE-8:00-5:00 EST-MON-FRI 1-800-543-4906
24 HR MESSAGE CENTER: 1-800-438-2647

NAME: TIMOTHY HOWARD MC NAMARA
514 WEST 4TH. STREET
P. O. BOX 31
TEMPLETON, IA 51463

MANUFACTURER: DUBOIS CHEMICALS, INC
3630 E. KEMPER ROAD
SHARONVILLE, OHIO 45241
PREPARED BY: M. ANTOSIAK
ON 12/30/88

EMERGENCY PHONE NO. 513-554-4200
REFERENCE SEQ # 16209

ABBREVIATIONS ..C-CEILING..MP-MAXIMUM PEAK..N/A-NOT APPLICABLE..N/K-NOT KNOWN..P-POTENTIAL..PEL-PERMISSIBLE EXPOSURE LIMIT..PM-PENSKY MARTENS..S-SKIN..ST-SHORT TERM..TLV-THRESHOLD LIMIT VALUE..TWA-TIME WEIGHTED AVERAGE..

SECTION-1 IDENTITY

COMMON NAME USED ON LABEL: ADDITIVE 12 — CODE 00271
CHEMICAL FAMILY: SURFACTANT ADDITIVE

SECTION-2 HAZARDOUS INGREDIENTS (ONLY ITEMS LISTED ARE HAZARDOUS BY TITLE 29CFR 1910. 1200)

PRINCIPAL HAZARDOUS COMPONENT(S) CHEMICAL & COMMON NAME	%	EXPOSURE LIMITS (TWA 8 HOUR UNLESS OTHERWISE SPECIFIED)	UNITS
NONE		3 ppm TLV	

SECTION-3 PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE & EXPLOSION DATA)

BOILING POINT: 205 °F — SPECIFIC GRAVITY: 1.035 — VAPOR PRESSURE: N/A mmHg@ °C — VOLATILE BY VOLUME: <1 %
VAPOR DENSITY AIR=1: N/A — EVAPORATION RATE (n-BUTYL ACETATE=1): <1 — SOLUBILITY IN WATER: 100 % — REACTIVITY IN WATER: / — HEAT EVOLUTION: NONE
APPEARANCE & ODOR: CLEAR LIQUID; MILD ODOR
FLASH POINT: 430 °F — COC — FLAME EXTENSION: N/A in. — FLAMMABLE LIMITS IN AIR BY VOLUME: LOWER NONE UPPER NONE — AUTO IGNITION TEMPERATURE: NONE °F
EXTINGUISHER MEDIA: CO2, DRY CHEMICALS, FOAM, WATER
FIREFIGHTING SPECIAL PROCEDURES: NONE
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

SECTION-4 PHYSICAL HAZARDS

STABILITY: STABLE — POLYMERIZATION: NONE
INCOMPATIBLE WITH: NONE KNOWN
DECOMPOSITION PRODUCTS: CO WITH INCOMPLETE COMBUSTION

SECTION-5 HEALTH HAZARDS

PRIMARY ROUTES OF ENTRY: INHALATION NO — SKIN NO — INGESTION YES
1. ACUTE SIGNS AND SYMPTOMS OF OVEREXPOSURE: DEFATS SKIN; IRRITATES EYES
2. CHRONIC: SAME AS ACUTE
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: SENSITIVE SKIN
LISTED CARCINOGEN: NONE — NTP NO — IARC NO — OSHA NO

EMERGENCY AND FIRST AID PROCEDURES
1. INHALATION: N/A IN NORMAL OPERATION
2. EYES: FLUSH THOROUGHLY WITH FRESH WATER, GET MEDICAL ATTENTION
3. SKIN: FLUSH WITH FRESH WATER, WASH WITH SOAP AND WATER
REMOVE CONTAMINATED CLOTHES AND SHOES
4. INGESTION: GIVE MILK, WATER OR EGG WHITES
INDUCE VOMITING, GET MEDICAL ATTENTION

SECTION-6 SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NONE
VENTILATION LOCAL: NO
VENTILATION MECHANICAL: PRODUCE NORMAL AIR DILUTION — SPECIAL: NONE
PROTECTIVE GLOVES: NON-ABSORBENT
EYE PROTECTION: SPLASH GOGGLES
OTHER PROTECTIVE CLOTHING/EQUIPMENT: NONE

SECTION-7 SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

HANDLING AND STORAGE PRECAUTIONS: DO NOT PRESSURE CONTAINER TO EMPTY. KEEP FROM FREEZING. KEEP CONTAINER CLOSED. IF FROZEN, THAW AND MIX TO MAKE USABLE.
OTHER PRECAUTIONS: VOLUNTARY; CAUTIONS ON CONTAINER LABEL.
IF MATERIAL IS RELEASED/SPILLED: FLUSH SMALL AMOUNTS TO DRAIN; COLLECT AND RETURN LARGE AMOUNTS TO CONTAINER.
WASTE DISPOSAL METHODS: USE UNTIL LESS THAN 1 INCH REMAINS IN CONTAINER, EMPTY CONTAINER TRIPLE RINSE WITH WATER, ADD TO OPERATION
REMOVE OR DEFACE LABEL BEFORE SELLING CONTAINER OR DISPOSAL
BIOLOGICAL DEGRADATION IN A TRICKLE FILTER OR LANDFILL IN ACCORDANCE WITH FEDERAL STATE AND LOCAL REGULATIONS. NO PHOSPHATES

HMIS RATING: HEALTH 0 — FLAMMABILITY 1 — REACTIVITY 0 — PERSONAL PROTECTION D

S.A.R.A. TITLE III, SECTION 313

NONE

STATE OF RIGHT TO KNOW INFORMATION

N/A

DUCARE-8:00-5:00 EST-MON-FRI 1-800-543-4906
24 HR MESSAGE CENTER: 1-800-438-2647

NAME: TIMOTHY HOWARD MC NAMARA
514 WEST 4TH. STREET
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SECTION-1 IDENTITY

COMMON NAME USED ON LABEL: SECURE LOW FOAM — CODE 03943
CHEMICAL FAMILY: PHOSPHATIZING, SPRAY WASHER

SECTION-2 HAZARDOUS INGREDIENTS (ONLY ITEMS LISTED ARE HAZARDOUS BY TITLE 29CFR 1910.1200)

PRINCIPAL HAZARDOUS COMPONENT(S) CHEMICAL & COMMON NAME	%	EXPOSURE LIMITS (TWA 8 HOUR UNLESS OTHERWISE SPECIFIED)	UNITS
PHOSPHORIC ACID (7664-38-2)	<10	TLV 1; PEL 1; ST 3	MG/M3

40 gal to ≈ 500

SECTION-3 PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE & EXPLOSION DATA)

BOILING POINT 215 °F — SPECIFIC GRAVITY 1.118 — VAPOR PRESSURE 17.5 mmHg@20 °C — VOLATILE BY VOLUME 78 %
VAPOR DENSITY AIR=1 N/A — EVAPORATION RATE (n-BUTYL ACETATE=1) >1 — SOLUBILITY IN WATER 100 % — REACTIVITY IN WATER / HEAT EVOLUTION NONE
APPEARANCE & ODOR: CLEAR LIQUID; MILD ODOR

FLASH POINT NONE °F — FLAME EXTENSION N/A in. — FLAMMABLE LIMITS IN AIR BY VOLUME LOWER NONE UPPER NONE — AUTO IGNITION TEMPERATURE N/A °F

EXTINGUISHER MEDIA: CO2, FOAM
FIREFIGHTING SPECIAL PROCEDURES: OVERALL COVER OF PERSONNEL IF VAPORS ARE ENCOUNTERED.
UNUSUAL FIRE AND EXPLOSION HAZARDS: LIQUID PRODUCES HYDROGEN IN CONTACT WITH METALS.

SECTION-4 PHYSICAL HAZARDS

STABILITY: STABLE — POLYMERIZATION: NONE
INCOMPATIBLE WITH: CONCENTRATED ALKALIS
DECOMPOSITION PRODUCTS: CO WITH INCOMPLETE COMBUSTION

SECTION-5 HEALTH HAZARDS

PRIMARY ROUTES OF ENTRY — INHALATION YES — SKIN NO — INGESTION YES

1. ACUTE SIGNS AND SYMPTOMS OF OVEREXPOSURE: DEFATS SKIN; MAY IRRITATE EYES
MISTS ARE RESPIRATORY IRRITANTS

2. CHRONIC: SAME AS ACUTE

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: SENSITIVE SKIN AND EYES
LISTED CARCINOGEN: NONE — NTP NO — IARC NO — OSHA NO

EMERGENCY AND FIRST AID PROCEDURES

1. INHALATION: N/A IN NORMAL OPERATION
2. EYES: FLUSH THOROUGHLY WITH FRESH WATER, GET MEDICAL ATTENTION
3. SKIN: FLUSH WITH FRESH WATER, WASH WITH SOAP AND WATER
REMOVE CONTAMINATED CLOTHES AND SHOES
4. INGESTION: GIVE MILK, WATER OR EGG WHITES
DO NOT INDUCE VOMITING, GET MEDICAL ATTENTION

SECTION-6 SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NONE — VENTILATION LOCAL: YES
VENTILATION MECHANICAL: NO — SPECIAL: NONE
PROTECTIVE GLOVES: ACID RESISTANT
EYE PROTECTION: FACE SHIELD WHEN HANDLING
OTHER PROTECTIVE CLOTHING/EQUIPMENT: NONE

SECTION-7 SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

HANDLING AND STORAGE PRECAUTIONS: DO NOT PRESSURE CONTAINER TO EMPTY. KEEP FROM FREEZING. KEEP CONTAINER CLOSED. IF FROZEN, THAW AND MIX TO MAKE USABLE.
OTHER PRECAUTIONS: VOLUNTARY CAUTIONS ON CONTAINER LABEL. DOT CORROSIVE. NA 1760
IF MATERIAL IS RELEASED/SPILLED: FLUSH SMALL AMOUNTS TO DRAIN; COLLECT AND RETURN LARGE AMOUNTS TO CONTAINER.
WASTE DISPOSAL METHODS: PH ADJUSTMENT; CONTAINS PHOSPHATES.
USE UNTIL LESS THAN 1 INCH REMAINS IN CONTAINER, EMPTY CONTAINER TRIPLE RINSE WITH WATER, ADD TO OPERATION
REMOVE OR DEFACE LABEL BEFORE SELLING CONTAINER OR DISPOSAL

HMIS RATING — HEALTH 3 — FLAMMABILITY 0 — REACTIVITY 0 — PERSONAL PROTECTION D

S.A.R.A. TITLE III SECTION 313

SECURE LOW FOAM CONTAINS THESE SARA TITLE III SECTION 313 CHEMICALS AS INGREDIENTS IN THE FOLLOWING CONCENTRATIONS:
PHOSPHORIC ACID CAS #7664-38-2 AT 8.5%.

STATE OF RIGHT TO KNOW INFORMATION

N/A

APPENDIX F

MSDS FOR ZINC PHOSPHATE PLATING

DOUGLAS & LOMASON COMPANY

Corporate Offices: 24800 Hallwood Court, Farmington Hills, Michigan 48331-4508 *Telephone (313)478-7800*

Please Reply to:
P.O. Box 20783, Atlanta Airport
Atlanta, Georgia 30320
Telephone (404) 349-7000

May 29, 1990

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To SHARON MARTIN	From RAY OSBORNE
Co. E+E	Co. D&L : ATLANTA
Dept.	Phone # 404-349-7000
Fax # 913-432-0670	Fax # 404-346-3772

Ms. Sharon P. Martin
ECOLOGY AND ENVIRONMENT, INC.
Cloverleaf Bldg. 3
6405 Metcalf
Overland Park, KS 66202

RE: Douglas & Lomason Company
Red Oak, IA
Tank Sizes for Autophoretic and Zinc Phosphator Systems

Dear Ms Martin:

As requested, the following information is provided:

ZINC PHOSPHATOR:

Tanks 13,12,11,10,9,8,4,3 and 2:
Length: 93.5 inches, Width: 36 inches, Height: 46 inches

Tank 5,6,7 - (Only one tank labeled 5,6,7)
Length: 93.5 inches, Width: 119 inches, Height: 46 inches

AUTOPHORETIC:

Tank	Length	Width	Height	Tank	Length	Width	Height
1	60 in	30 in	48 in	6	Spray Nozzles only		
2	58	75	52.5	7	74.5	28	49.5
3	46	29	51	8	26	22	49.5
4	46	29	51	9	63.5	25.5	49.5
5	78.5	29	52.5	10	Infrared Drying Oven		

Overall dimensions of autophoretic system:
Length - 460 inches Height - 79 inches Width - 67 inches

Sincerely,

DOUGLAS & LOMASON COMPANY

Raymond L. Osborne
Corporate Environmental Manager

ZINC PHOSPHATOR

The Zinc Phosphator consists of the following tanks:

13) Alkaline Cleaner - Parco Cleaner 2076 - MSDS Attached

12) Rinse Tank - City Water

11) Rinse Tank - City Water

10) Alkaline Cleaner - Same as Tank # 13 (Note: Robot is programmed to utilize Tank # 13 or Tank # 10 but NOT both.)

9) Rinse Tank - City Water

8) Acid Pre Tank - Hydrochloric Acid (80 gallons in 720 gallons of water.) MSDS Attached

7) Zinc Phosphating Tank - PARKERIZING 210 - MSDS Attached (67 Gallons in 2100 gallons of water)

6) Same as Tank # 7 - Volume included in the 2100 gallons.

5) Same as Tank # 7 - Volume included in the 2100 gallons.

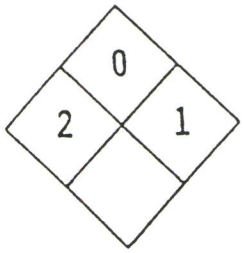
4) Rinse Tank - City Water

3) Non Chromate Rinse Tank - PARCOLENE 95A - MSDS attached. (7 gallons in 720 gallons of water)

2) Lube Dip - PARCOLAC 2945 - MSDS Attached. (72 gallons in 720 gallons of water)

Parker+Amchem

HENKEL CORPORATION
32100 Stephenson Highway
Madison Heights, Michigan 48071



MATERIAL SAFETY DATA SHEET

CUSTOMER # TANK # 13 + 10
ZINC PHOSPHATOR

PRODUCT TRADE NAME	PARCO® CLEANER 2076
DOT PROPER SHIPPING NAME	Corrosive solid, NOI, UN1759
DOT HAZARD CLASSIFICATION	Corrosive
TECHNICAL CONTACT (NAME)	Product Acceptance Office
TELEPHONE NUMBER	(313) 583-9300 EMERGENCY NUMBER 1-517-263-9430

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENTS (% WT/WT)	HAZARD	TLV/PEL
Sodium Hydroxide	1310-73-2	40-50	Corrosive	C 2mg/m³ 2mg/m³
Sodium Metasilicate	6834-92-0	5-10	Irritant	None

This product contains a chemical subject to the reporting requirements of Section 313, Title III of SARA, Part 372.

2 PHYSICAL DATA

APPEARANCE	White granular solid		
SOLUBILITY IN WATER	Appreciable	pH of CONCENTRATE	12-13(2% Dilution)
ODOR	None	BOILING POINT, °F.	Not applicable
SPECIFIC GRAVITY	Not applicable		

OTHER: Not applicable

3 FIRE & EXPLOSION DATA

FLASH POINT: None
TEST METHOD: Not applicable
EXTINGUISHING MEDIA: As required to extinguish surrounding fire.
UNUSUAL FIRE OR EXPLOSION HAZARDS
None
SPECIAL FIRE FIGHTING PROCEDURES
None

200853

4 REACTIVITY DATA

STABLE ☒ UNSTABLE ☐

CONDITIONS TO AVOID

Not applicable

INCOMPATIBLE MATERIALS

Keep separate from acids.
Water added to this chemical may cause localized overheating and splattering.

HAZARDOUS POLYMERIZATION WILL OCCUR ☐
WILL NOT OCCUR ☒

CONDITIONS TO AVOID

Not applicable

HAZARDOUS DECOMPOSITION PRODUCTS

None

5 HEALTH HAZARD DATA

EYES: Contact with eyes will cause severe burn and possible blindness.

SKIN: Contact with skin or mucous membrane will cause severe burns and possible ulceration.

INGESTION: Can result in gastrointestinal damage; burns of the digestive tract.

INHALATION: Inhalation of dust can cause injury (burns) to the entire respiratory tract.

No component of this chemical is listed in the NTP Annual Report on Carcinogens, IARC Monographs or is regulated as a carcinogen by OSHA.

Medical Conditions Generally Aggravated by Exposure: Pre-existing eye, skin and respiratory disorders.

6 FIRST AID RECOMMENDATIONS

EYES: Immediately flush eyes in a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. GET MEDICAL ATTENTION.

SKIN: Immediately remove contaminated clothing and shoes. Flush skin thoroughly with water for at least 15 minutes. Rinse clothing. If irritation persists, GET MEDICAL ATTENTION.

INGESTION: Drink large quantities of water. CORROSIVE. DO NOT INDUCE VOMITING. If vomiting occurs, drink more water. GET MEDICAL ATTENTION. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air and remove contaminated clothing. If breathing is difficult, administer oxygen. If respiration stops, give mouth to mouth resuscitation. GET MEDICAL ATTENTION.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Wear protective clothing.
Sweep up or otherwise collect and store in suitable drum.

WASTE TREATMENT

Contact a licensed disposal agent.
Dispose of in compliance with all applicable federal, state and local regulations.
This chemical contains a chelating agent.

8 PERSONAL PROTECTION

VENTILATION REQUIREMENTS	GENERAL AREA EXHAUST	☐
	LOCAL EXHAUST	☒
	NO EXHAUST NECESSARY	☐

PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION	Chemical goggles or face shield.
SKIN PROTECTION	Neoprene or polyvinyl gloves and appropriate protectiv clothing.
RESPIRATORY PROTECTION	MSHA/NIOSH dust filter mask or respirator if dusting occurs.
OTHER REQUIRED EQUIPMENT	Eye wash facility and emergency shower should be in close proximity.

SPECIAL PRECAUTIONS & STORAGE

DO NOT GET IN EYES, ON SKIN OR ON CLOTHING.

For industrial use only.

PREPARED BY Product Acceptance Office DATE 09/30/88

TITLE

$112K

CHEMICAL EMERGENCY TELEPHONE 1-800-424-9300

CUSTOMER:

TANK 8
ZINC PHOSPHATOR
NOTE: 80 GALLONS IN 720 GALLONS of WATER

F
REQUESTED FOR:

73022725
DOUGLAS LOMASON COMPANY
ATTN: SAFETY DIRECTOR Susan Baska
2700 NORTH BROADWAY
P O BOX 117
RED OAK IA 51566

ORDER NO:
PROD NO: 040008296

VAN WATERS & ROGERS INC., SUBSIDIARY OF UNIVAR
1600 NORTON BLDG.- SEATTLE, WA 98104-1564 (408) 435-0700

EMERGENCY ASSISTANCE

OR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTREC (800)424-9300

FOR PRODUCT AND SALES INFORMATION

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE

PRODUCT IDENTIFICATION

RODUCT NAME: HYDROCHLORIC ACID
MMON NAMES/SYNONYMS: HYDROCHLORIC
D; MURIATIC ACID; HYDROCHLORIC ACID 10 BE;
ROCHLORIC ACID 9%

CAS NO.: 7647-01-0
VW&R CODE: P1125

MULA: H CL
DRA RATING (NFPA 49)
HEALTH: 3
FIRE: 0
REACTIVITY: 0
SPECIAL: NONE

DATE ISSUED: 03/90
SUPERCEDES: 02/90
HAZARD RATING SCALE:
0=MINIMAL 3=SERIOUS
1=SLIGHT 4=SEVERE
2=MODERATE

HAZARDOUS INGREDIENTS

COMPONENT	CAS NO.	%	EXPOSURE LIMITS, PPM OSHA PEL	ACGIH TLV	OTHER LIMIT	HAZARD
YDROCHLORIC ACID	7647-01-0M	9-37	5 CEILING	5 CEILING	NONE	CORROSIVE
TER	7732-18-5	BALANCE	NONE	NONE	NONE	NONE

PHYSICAL PROPERTIES

LING POINT, DEG F: 150 - 230 VAPOR PRESSURE, MM HG/20 DEG C: 30 AT 77 DEG F

LTING POINT, DEG F: N/A VAPOR DENSITY (AIR=1): N/A
CIFIC GRAVITY (WATER=1): A=1.14; B=1.16; C=1.18; D=1.07 WATER SOLUBILITY, %:
EARANCE AND ODOR: CLEAR, COLORLESS TO PALE YELLOW WITH PUNGENT, IRRITATING ODOR. EVAPORATION RATE (BUTYL ACETATE=1): N/A

A=18 DEG BE HYDROCHLORIC ACID; B=20 DEG BE HYDROCHLORIC ACID;
=22 DEG BE HYDROCHLORIC ACID; D=10 DEG BE HYDROCHLORIC ACID)

FIRST AID MEASURES

INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

YDROCHLORIC ACID 20 BE

N CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING ATER FOR 30 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. IMMEDIATE MEDICAL ATTENTION.

N CASE OF SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH LOTS OF RUNNING ATER FOR 30 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH FORE REUSE. GET IMMEDIATE MEDICAL ATTENTION.

F SWALLOWED: DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LOTS OF ATER. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH O AN UNCONSCIOUS OR CONVULSING PERSON.

----------HEALTH HAZARD INFORMATION----------

RIMARY ROUTES OF EXPOSURE: SKIN OR EYE CONTACT, INHALATION.

IGNS AND SYMPTOMS OF EXPOSURE
INHALATION: VAPORS AND MISTS ARE EXTREMELY CORROSIVE TO THE NOSE, HROAT, AND MUCOUS MEMBRANES. BRONCHITIS, PULMONARY EDEMA, AND HEMICAL PNEUMONITIS MAY OCCUR. IRRITATION, COUGHING, CHEST PAIN, AND IFFICULTY IN BREATHING MAY OCCUR WITH BRIEF EXPOSURE WHILE PROLONGED XPOSURE MAY RESULT IN MORE SEVERE IRRITATION AND TISSUE DAMAGE. REATHING HIGH CONCENTRATIONS MAY RESULT IN DEATH.

EYE CONTACT: VAPORS, LIQUID, AND MISTS ARE EXTREMELY CORROSIVE TO HE EYES. BRIEF CONTACT OF THE VAPORS WILL BE SEVERELY IRRITATING. RIEF CONTACT OF THE LIQUID OR MISTS WILL SEVERELY DAMAGE THE EYES AND ROLONGED CONTACT MAY CAUSE PERMANENT EYE INJURY WHICH MAY BE FOLLOWED Y BLINDNESS.

SKIN CONTACT: VAPORS, MISTS, AND LIQUID ARE EXTREMELY CORROSIVE TO THE SKIN. VAPORS WILL SEVERELY IRRITATE THE SKIN AND LIQUID AND ISTS WILL SEVERELY BURN THE SKIN. PROLONGED LIQUID CONTACT WILL BURN OR DESTROY SURROUNDING TISSUE AND DEATH MAY ACCOMPANY BURNS WHICH EX- END OVER LARGE PORTIONS OF THE BODY.

SWALLOWED: VAPORS, MISTS, AND LIQUID ARE EXTREMELY CORROSIVE TO F MOUTH AND THROAT. SWALLOWING THE LIQUID BURNS THE TISSUES, CAUSES EVERE ABDOMINAL PAIN, NAUSEA, VOMITING, AND COLLAPSE. SWALLOWING LARGE QUANTITIES CAN CAUSE DEATH.

CHRONIC EFFECTS OF EXPOSURE: MAY RESULT IN AREAS OF DESTRUCTION OF KIN TISSUE OR PRIMARY IRRITANT DERMATITIS. SIMILARLY, INHALATION OF VAPORS OR MISTS MAY CAUSE VARYING DEGREES OF DAMAGE TO THE AFFECTED TISSUES AND ALSO INCREASING SUSCEPTIBILITY TO RESPIRATORY ILLNESS.

EDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE REPORTED.

----------TOXICITY DATA----------

ORAL: RABBIT LD50 = 900 MG/KG

DERMAL: NO DATA FOUND

INHALATION: RAT LC50 = 3,124 PPM/1HR

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

OTHER DATA: NONE

----------PERSONAL PROTECTION----------

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MAIN- TAINING EMISSIONS AT THE POINT OF USE BELOW THE PEL.

RESPIRATORY PROTECTION: WEAR A NIOSH-APPROVED RESPIRATOR APPROPRIATE FOR THE VAPOR OR MIST CONCENTRATION AT THE POINT OF USE. APPROPRIATE RESPIRATORS MAY BE A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CART- RIDGE RESPIRATOR EQUIPPED FOR ACID GASES/MISTS, A SELF-CONTAINED

DROCHLORIC ACID 20 BE REVISION OF:03-07-90

TAIR AND MAINTENANCE PRECAUTIONS: DO NOT CUT, GRIND, WELD, OR DRILL ON OR NEAR THIS CONTAINER.

HER PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL TAIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND NDLE EMPTY CONTAINERS AS IF THEY WERE FULL.

----------FOR ADDITIONAL INFORMATION----------

CONTACT MSDS COORDINATOR, VAN WATERS & ROGERS INC.
DURING BUSINESS HOURS, PACIFIC TIME (408)435-8700

----------OTHER REGULATORY INFORMATION----------

HE COMPONENTS OF THIS PRODUCT ARE ON THE TSCA INVENTORY OF CHEMICAL SUBSTANCES.

DO NOT DETACH THIS SECTION FROM THE MSDS AND BE SURE TO INCLUDE THIS SECTION WHEN COPYING THE MSDS.

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICAL(S) SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND MENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372:

NAME	CAS NO.	%, WT.
YDROCHLORIC ACID	7647-01-0	9-37

UNDER MASSACHUSETTES RIGHT-TO-KNOW LAW, HAZARDOUS SUBSTANCE AND EXTRA-ORDINARILY HAZARDOUS SUBSTANCES COMPONENTS PRESENT IN THIS PRODUCT HICH REQUIRES REPORTING ARE:

EXTRAORDINARILY HAZARDOUS SUBSTANCES CHEMICAL	CAS NO.	CONCENTRATION (=> 0.0001%)
DROCHLORIC ACID	7647-01-0	9-37

UNDER THE PENNSYLVANIA RIGHT-TO-KNOW LAW, HAZARDOUS SUBSTANCES AND SPECIAL HAZARDOUS SUBSTANCES COMPONENTS PRESENT IN THIS PRODUCT HICH REQUIRE REPORTING ARE:

HAZARDOUS SUBSTANCES CHEMICAL	CAS NO.	CONCENTRATION (=> 1%)
HYDROCHLORIC ACID	7647-01-0	9-37

CALIFORNIA SCAQMD: NONE

----------NOTICE----------

VAN WATERS & ROGERS INC. ("VW&R") EXPRESSLY DISCLAIMS ALL EXPRESS OR IMPLIED WARRENTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED HEREIN.

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&R'S CONTROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER PROCESS.

----------REVISION----------

3/90: ADDED SYNONYM

PROD: 04008296 12:48:32 20 MAR 1990 CUST: 73022725 INVOICE:

MURIATIC ACID 20 BE REVISION OF:03-07-90

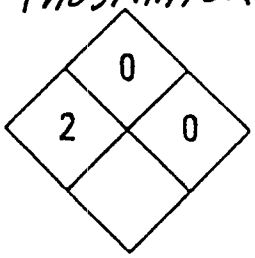
REVISED % COMPOSITION IN INGREDIENT AND OTHER REGULATORY INFORMATION

**** E N D O F M S D S ****

TANKS 7, 6, 5
ZINC PHOSPHATOR

Parker+Amchem

HENKEL CORPORATION
32100 Stephenson Highway
Madison Heights, Michigan 48071



MATERIAL SAFETY DATA SHEET

NOTE:
67 GALLONS IN
2100 GALLONS of WATER

CUSTOMER #

PRODUCT TRADE NAME	PARKERIZING® 210
DOT PROPER SHIPPING NAME	Compound, rust preventing, corrosive material, NA1760.
DOT HAZARD CLASSIFICATION	Corrosive material.
TECHNICAL CONTACT (NAME)	Product Acceptance Office
TELEPHONE NUMBER	(313) 583-9300 EMERGENCY NUMBER 1-517-263-9430

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENTS (% WT/WT)	HAZARD	TLV/PEL
Zinc Dihydrogen Phosphate	13598-37-3	30-40	Irritant	None
Nitric Acid	7697-37-2	5-10	Corrosive	5 mg/m³ 5 mg/m³
Zinc Nitrate	2779-88-6	5-10	Oxidizer	None

This product contains a chemical subject to the reporting requirements of Section 313, Title III of SARA, Part 372.

2 PHYSICAL DATA

APPEARANCE	Pale green liquid.		
SOLUBILITY IN WATER	Complete.		
ODOR	None.	pH of CONCENTRATE	1.6
SPECIFIC GRAVITY	1.5 - 1.6	BOILING POINT, °F.	210 - 250 F
OTHER:	Not applicable.		

FIRE & EXPLOSION DATA

.ASH POINT None.

METHOD Not applicable.

NGUISHING MEDIA As required to extinguish surrounding fire.

USUAL FIRE OR EXPLOSION HAZARDS

None.

ECIAL FIRE FIGHTING PROCEDURES

Wear positive pressure self-contained breathing apparatus and full protective clothing.

REACTIVITY DATA

ABLE ☒ UNSTABLE ☐

TIONS TO AVOID

Not applicable.

OMPATIBLE MATERIALS

Keep separate from alkalies.

ARDOUS POLYMERIZATION WILL OCCUR ☐

WILL NOT OCCUR ☒

TIONS TO AVOID

Not applicable.

DOUS DECOMPOSITION PRODUCTS

Nitrogen oxides.

HEALTH HAZARD DATA

EYES: Contact with eyes can cause burn and eye damage.

SKIN: Contact with skin can cause irritation.

INHALATION: Inhalation of mist can cause injury (burns) to the respiratory tract.

INGESTION: Can result in gastrointestinal damage; burns of the digestive tract.

Medical Conditions Generally Aggravated by Exposure: Pre-existing skin disorders.

No component of this chemical is listed in the NTP Annual Report on Carcinogens, IARC Monographs or is regulated as a carcinogen by OSHA.

6 FIRST AID RECOMMENDATIONS

EYES: Immediately flush eyes in a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. GET MEDICAL ATTENTION.

SKIN: Immediately remove contaminated clothing and shoes. Flush skin thoroughly with water for at least 15 minutes. Rinse clothing. If irritation persists, GET MEDICAL ATTENTION.

INGESTION: Drink large quantities of water. CORROSIVE. DO NOT INDUCE VOMITING. If vomiting occurs, drink more water. GET MEDICAL ATTENTION. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air and remove contaminated clothing. If breathing is difficult, administer oxygen. If respiration stops, give mouth to mouth resuscitation. GET MEDICAL ATTENTION.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Wear protective clothing.
Dike to contain spill.
Absorb or otherwise collect spill and store in polyethylene or polyethylene-lined steel container.
Flush the contaminated area with water.

WASTE TREATMENT

This chemical is a hazardous waste as defined by EPA Hazardous Waste and Consolidated Permit Regulations (or consult equivalent state regulations).
Hazardous Waste Characteristic: Corrosivity, Title 40, Code of Federal Regulations, 261.22, Hazardous Waste Number D002.
This chemical contains phosphates and heavy metals. Waste treatment and neutralization may be required prior to discharge to a sewer.
Contact a licensed disposal agent.
Dispose of in compliance with all applicable federal, state and local regulations.

PERSONAL PROTECTION

VENTILATION REQUIREMENTS	GENERAL AREA EXHAUST	☐
	LOCAL EXHAUST	☒
	NO EXHAUST NECESSARY	☐

PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION	Chemical goggles or face shield.
SKIN PROTECTION	Neoprene or polyvinyl gloves and appropriate protecti clothing.
RESPIRATORY PROTECTION	NIOSH approved, if misting occurs.
OTHER REQUIRED EQUIPMENT	Eye wash facility and emergency shower should be in close proximity.

SPECIAL PRECAUTIONS & STORAGE

DO NOT GET IN EYES, ON SKIN OR ON CLOTHING.

DO NOT TAKE INTERNALLY.

DO NOT USE UNTIL YOU HAVE READ THE PROCESS SPECIFICATION FOR THIS PRODUCT.

For industrial use only.

PREPARED BY Product Acceptance Office DATE 08/31/88

TITLE

CHEMICAL EMERGENCY TELEPHONE 1-800-424-9300

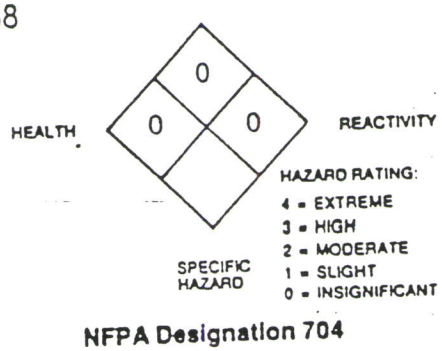
MATERIAL SAFETY DATA SHEET
(Similar to Form OSHA-20)

TANK # 3
ZINC PHOSPHATOR

PARKER CHEMICAL COMPANY
32100 Stephenson Hwy., Madison Heights, Michigan 48071 (313) 583-9300

NOTE: 7 gallons TO 220 GALLONS OF WATER

Date: March 2, 1988



NFPA Designation 704

I. PRODUCT IDENTIFICATION:

Product Name: PARCOLENE® 95A

Code Number: 201648

Identification: Conversion Coating Agent.

II. HEALTH HAZARD DATA

Emergency and First Aid Procedures

EYES: Immediately flush eyes in a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. If irritation persists, GET MEDICAL ATTENTION.

SKIN: Wash thoroughly with soap and water.

Route and Effects of Overexposure

EYES AND SKIN: Animal studies indicate minimal irritation.

INGESTION: Toxic study: LD_{50} > 5 g/kg (oral, rat)

Carcinogenicity:

No component of this chemical is listed in the NTP Annual Report on Carcinogens, IARC Monographs or is regulated as a carcinogen by OSHA.

Precautions

For industrial use only.

III. INGREDIENTS

	%	ACGIH TLV	OSHA PEL	CAS
Polymer resin	1-30	-	-	-
Water	-	-	-	-

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: None.

Flammable Limits: Non-flammable.

Extinguishing Media: As required to extinguish surrounding fire.

Unusual Fire and Explosion Hazard: None.

V. SPECIAL PROTECTION

Respiratory Protection: Not normally required.

Ventilation: No special requirements.

Protective Gloves: Not required.

Eye and Face Protection: Safety glasses.

VI. PHYSICAL DATA

Specific Gravity: 0.95 - 1.05

VOC: Not applicable.

Solubility in water: Complete.

Boiling Point: 210° - 250° F.

Appearance and Odor: Tea-colored liquid, mild characteristic odor.

pH: 7.0 - 8.0

VII. REACTIVITY DATA

Stability: Stable.

Incompatibility: None.

Hazardous Decomposition Products: None.

Hazardous Polymerization: Will not occur.

VIII. HANDLING AND STORAGE:

We recommend that ALL CHEMICALS be stored and used in locations which will not permit direct access to sanitary or surface drains. These areas should be constructed in such a manner that any chemicals lost can be either salvaged or suitably treated to prevent pollution.

Keep from freezing.

IX. SPILL, LEAK AND DISPOSAL PROCEDURES

Steps To Be Taken In Case Material is Released or Spilled:

Dike to contain spill.

Absorb or otherwise collect spill and store in steel drum.

Flush the contaminated area with water.

Waste Disposal Method:

This chemical does not exhibit any of the characteristics of hazardous waste as defined in Title 40, Code of Federal Regulations, 261.3.

Contact a licensed disposal agent for controlled incineration or burial in approved landfill; or this chemical could be discharged to either the facility waste treatment works or a municipal waste treatment works.

X. REGULATORY STATUS

Clean Water Act

Toxic Pollutant List (Sec. 307): Does not contain any chemical(s)/compound(s) which are included on this list.

Designated Hazardous Substances (Sec 311): Does not contain any chemical(s)/compound(s) which are included on this list.

Department of Transportation:

This chemical is not regulated by the Department of Transportation.

Bill of Lading Description: Compound, iron or steel, rust preventing or removing, OT petroleum, N.O.I.

Department of Transporation Hazard Classification: None.

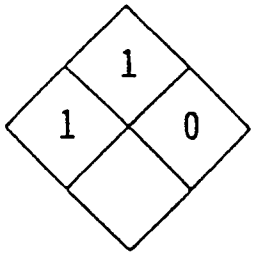
Department of Transportation Label: Not Required.

For Additional Information Contact:

PRODUCT ACCEPTANCE OFFICE
PARKER CHEMICAL COMPANY
(313) 583-9300

Parker+Amchem

HENKEL CORPORATION
32100 Stephenson Highway
Madison Heights,Michigan 48071



MATERIAL SAFETY DATA SHEET

TANK #2
ZINC PHOSPHATOR

CUSTOMER #

NOTE: 72 GALLONS TO 720 GALLONS OF WATER

PRODUCT TRADE NAME	PARCOLAC 2945		
DOT PROPER SHIPPING NAME	Not DOT regulated		
DOT HAZARD CLASSIFICATION	Not applicable		
TECHNICAL CONTACT (NAME)	Product Acceptance Office		
TELEPHONE NUMBER	(313) 583-9300	EMERGENCY NUMBER	1-517-263-9430

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENTS (% WT/WT)	HAZARD	TLV/PEL
Petroleum	64742-18-3	>60	Irritant	5mg/m³
Oil	64742-52-5			5mg/m³
+Diethanolamine	111-42-2	1-10	Irritant	3ppm
+Barium Sulfonate	61790-48-5	1-10	Irritant	0.5mg/m³ as Ba*
Primary Amines	68955-54-4	1-10	Corrosive	None
+Diethlene glycol n-butyl ether	112-34-5	1-10	Irritant	35ppm**

*Supplier Recommended
**Supplier exposure guideline
This product contains a chemical (+) subject to the reporting requirements of Section 313, Title III of SARA, Part 372.

2 PHYSICAL DATA

APPEARANCE	Dark brown liquid		
SOLUBILITY IN WATER	Negligible		
ODOR	Petroleum	pH of CONCENTRATE	Not applicable
SPECIFIC GRAVITY	0.90 - 1.00	BOILING POINT, °F.	Not applicable

OTHER: None

3 FIRE & EXPLOSION DATA

FLASH POINT > 200° F

TEST METHOD CC

EXTINGUISHING MEDIA Carbon dioxide, water, foam or dry chemical.

UNUSUAL FIRE OR EXPLOSION HAZARDS

May form toxic materials, carbon monoxide, various hydrocarbons, etc., oxides of nitrogen.

SPECIAL FIRE FIGHTING PROCEDURES

Wear positive pressure self-contained breathing apparatus and full protective clothing.

4 REACTIVITY DATA

STABLE ☒ UNSTABLE ☐

CONDITIONS TO AVOID

Not applicable

INCOMPATIBLE MATERIALS

Avoid heat and open flames.
Keep separate from strong oxidizing agents.

HAZARDOUS POLYMERIZATION WILL OCCUR ☐
WILL NOT OCCUR ☒

CONDITIONS TO AVOID

Not applicable

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition products are highly dependent on the combustion conditions. Carbon monoxide and other unidentified organic compounds may be formed.

5 HEALTH HAZARD DATA

EYES: Contact with eyes can cause severe irritation.

SKIN: Prolonged or repeated contact may cause irritation.

INHALATION: Prolonged or repeated exposure to mist of petroleum oils may cause pulmonary irritation, dizziness and nausea.

INGESTION: Can cause irritation of mucous membranes.

CHRONIC: Excessive exposure may cause liver, kidney and blood effects.

Medical Conditions Generally Aggravated by Exposure: Pre-existing skin disorders.

No component of this chemical is listed in the NTP Annual Report on Carcinogens, IARC Monographs or is regulated as a carcinogen by OSHA.

6 FIRST AID RECOMMENDATIONS

EYES: Immediately flush eyes in a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. If irritation occurs, get medical attention.

SKIN: Wash thoroughly with soap and water.

INGESTION: Dilute by drinking several glasses of water or milk. GET MEDICAL ATTENTION. Do not induce vomiting unless directed by a doctor.

INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. GET MEDICAL ATTENTION.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Contain spill, and absorb or otherwise collect spill for transfer to oily waste treatment for disposal.

WASTE TREATMENT

Contact a licensed disposal agent.
Dispose of in compliance with all applicable federal, state and local regulations.

8 PERSONAL PROTECTION

VENTILATION REQUIREMENTS	GENERAL AREA EXHAUST	☐
	LOCAL EXHAUST	☒
	NO EXHAUST NECESSARY	☐

PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION	Safety goggles
SKIN PROTECTION	Neoprene or polyvinyl gloves and appropriate protectiv clothing.
RESPIRATORY PROTECTION	Use a NIOSH approved respirator if exposure exceeds occupational expsure limits ($5mg/m^3$)
OTHER REQUIRED EQUIPMENT	Eye wash facility should be in close proximity.

9 SPECIAL PRECAUTIONS & STORAGE

Do not expose product to ignition source.

DO NOT TAKE INTERNALLY.

Avoid breathing vapors or mists if generated.

"Empty" product containers retain product residue. Do not pressurize, cut, heat, weld or expose such containers to flame.

For industrial use only.

DO NOT MIX WITH NITRITES.

PREPARED BY Product Acceptance Office DATE 12/02/88

TITLE

CHEMICAL EMERGENCY TELEPHONE 1-800-424-9300

CUSTOMER:

APPENDIX G

MSDS FOR AUTOPHORETIC UNIT

DOUGLAS & LOMASON COMPANY

Corporate Offices: 24800 Hallwood Court, Farmington Hills, Michigan 48331-4508 • *Telephone (313)478-7800*

Please Reply to:
P.O. Box 20783, Atlanta Airport
Atlanta, Georgia 30320
Telephone (404) 349-7000

May 29, 1990

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To SHARON MARTIN	From RAY OSBORNE
Co. E+E	Co. D+L : ATLANTA
Dept.	Phone # 404-349-7000
Fax # 913-432-0670	Fax # 404-346-3772

Ms. Sharon P. Martin
ECOLOGY AND ENVIRONMENT, INC.
Cloverleaf Bldg. 3
6405 Metcalf
Overland Park, KS 66202

RE: Douglas & Lomason Company
Red Oak, IA
Tank Sizes for Autophoretic and Zinc Phosphator Systems

Dear Ms Martin:

As requested, the following information is provided:

ZINC PHOSPHATOR:

Tanks 13,12,11,10,9,8,4,3 and 2:
Length: 93.5 inches, Width: 36 inches, Height: 46 inches

Tank 5,6,7 - (Only one tank labeled 5,6,7)
Length: 93.5 inches, Width: 119 inches, Height: 46 inches

AUTOPHORETIC:

Tank	Length	Width	Height	Tank	Length	Width	Height
1	60 in	30 in	48 in	6	Spray Nozzles only		
2	58	75	52.5	7	74.5	28	49.5
3	46	29	51	8	26	22	49.5
4	46	29	51	9	63.5	25.5	49.5
5	78.5	29	52.5	10	Infrared Drying Oven		

Overall dimensions of autophoretic system:
Length - 460 inches Height - 79 inches Width - 67 inches

Sincerely,

DOUGLAS & LOMASON COMPANY

Raymond L. Osborne
Corporate Environmental Manager

AUTOPHORETIC SYSTEM

The Autophoretic system consists of ten tanks:

1) Alklaine Cleaner - AUTOPHORETIC 2732 CLEANER - MSDS Attached

2) Alklaine Cleaner - AUTOPHORETIC 1775 CLEANER - MSDS Attached

3) RINSE WATER

4) RINSE WATER

5) RINSE WATER

6) RINSE WATER

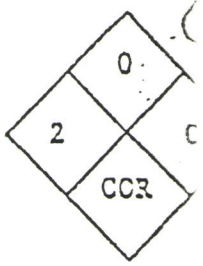
7) AUTHOPHORETIC TANK - Autophoretic 861 Replenisher, Autophoretic 219 Starter, Autophoretic 24 Oxidizer, and Autophoretic 35 Activator - MSDSs Attached

8) RINSE WATER

9) REACTION RINSE - AUTOPHORETIC 2150 REACTION RINSE - MSDS Attached

10) INFRARED DRYING TANK

AMCHEM PRODUCTS, INC.
Division of Henkel Corporation
300 Brookside Avenue
Ambler, PA 19002



MATERIAL SAFETY DATA SHEET

#1

PRODUCT TRADE NAME: AUTOPHORETIC 2732 CLEANER

D.O.T. PROPER SHIPPING NAME: Compounds, Cleaning, Liquid

D.O.T. HAZARD CLASSIFICATION: Corrosive

TECHNICAL CONTACT (NAME): Edward A. Rodzewich

TELEPHONE NUMBER: (215) 628-1334 EMERGENCY NUMBER: (215) 628-1000

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENT(% WT/WT)	HAZARD	TLV
Potassium Hydroxide	1310-58-3	15-20	Corrosive	2 mg/M^3

2 PHYSICAL DATA

APPEARANCE: Clear light yellow liquid

ODOR: Bland

SPECIFIC GRAVITY @ 60°F: 1.27-1.29

OTHER: Freezing Point: -8°F

SOLUBILITY IN WATER: Complete

pH OF CONCENTRATE @60° F: > 13

BOILING POINT °F: > 212

3 FIRE AND EXPLOSION DATA

FLASH POINT: None TEST METHOD: N/A

EXTINGUISHING MEDIA: Waterspray, foam, carbon dioxide, or dry chemical

UNUSUAL FIRE OR EXPLOSION HAZARDS: None

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus - NIOSH approved and full protective clothing.

REACTIVITY DATA

STABLE ☒ UNSTABLE ☐ (CONDITIONS TO AVOID)

INCOMPATIBLE MATERIALS Acids

HAZARDOUS POLYMERIZATION WILL NOT OCCUR ☒ MAY OCCUR ☐ CONDITIONS TO AVOID

HAZARDOUS DECOMPOSITION PRODUCTS Oxides of carbon, phosphorus

5 HEALTH HAZARD DATA

Skin: Will burn.

Eyes: Will burn.

Ingestion: Will burn mucous membranes.

6 FIRST AID RECOMMENDATIONS

Skin: Wash with soap and water and rinse thoroughly. Anyone who appears to suffer skin burns from this product should be seen by a doctor.

Eyes: Flush immediately with copious amounts of water for at least 15 minutes. Call a doctor.

Ingestion: Dilute by drinking several glasses of water, milk, or fruit juice. Call a doctor. Do not induce vomiting unless directed by a doctor.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Transfer any excess to a clean polyethylene container. Neutralize remaining residue with dilute hydrochloric acid or dilute acetic acid to pH 7-8.

WASTE TREATMENT

Flush neutralized material to treatment plant with plenty of water and with approval of regulatory agency.

8 PERSONAL PROTECTION

VENTILATION REQUIREMENTS

GENERAL AREA EXHAUST ☐

LOCAL EXHAUST ☒

NO EXHAUST NECESSARY ☐

PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION	Safety goggles
SKIN PROTECTION	Rubber gloves and rubber apron
RESPIRATORY PROTECTION	None
OTHER REQUIRED EQUIPMENT	None

9 SPECIAL PRECAUTIONS AND STORAGE

Store in a cool place away from acids.

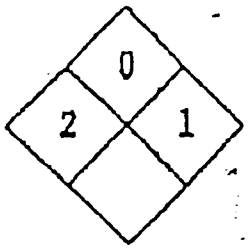
DATE 2-2-88

PREPARED BY Edward A. Rodzewich

Technical Director

Parker+Amchem

HENKEL CORPORATION
32100 Stephenson Highway
Madison Heights, Michigan 48071



MATERIAL SAFETY DATA SHEET

CUSTOMER #

#2

PRODUCT TRADE NAME	AUTOPHORETIC 1775 CLEANER
DOT PROPER SHIPPING NAME	Compounds, cleaning, liquid , NA1760
DOT HAZARD CLASSIFICATION	Corrosive
TECHNICAL CONTACT (NAME)	Product Acceptance Office
TELEPHONE NUMBER	(313) 583-9300 EMERGENCY NUMBER 1-517-263-9430

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENTS (% WT/WT)	HAZARD	TLV/PEL
Potassium Hydroxide	1310-58-3	10-15	Corrosive	2 mg/M^3
Tetrapotassium Pyrophosphate	7320-34-5	3-5	Irritant	None
Tetrasodium Pyrophosphate	7722-88-5	5-10	Irritant	5mg/m^3

2 PHYSICAL DATA

APPEARANCE	Clear, light yellow liquid		
SOLUBILITY IN WATER	Complete		
ODOR	Bland	pH of CONCENTRATE	>12
SPECIFIC GRAVITY	1.24-1.26	BOILING POINT, °F.	>212° F

OTHER: Freezing Point: -8°F

3 FIRE & EXPLOSION DATA

FLASH POINT: None

TEST METHOD: Not applicable

EXTINGUISHING MEDIA

UNUSUAL FIRE OR EXPLOSION HAZARDS

None

SPECIAL FIRE FIGHTING PROCEDURES

Wear positive pressure self-contained breathing apparatus and full protective clothing.

4 REACTIVITY DATA

STABLE ☒ UNSTABLE ☐

CONDITIONS TO AVOID

Contact with aluminum, zinc, tin and alloys containing these metals.

HAZARDOUS POLYMERIZATION

WILL OCCUR ☐

WILL NOT OCCUR ☒

CONDITIONS TO AVOID

None

HAZARDOUS DECOMPOSITION PRODUCTS

Oxides of phosphorus and carbon

5 HEALTH HAZARD DATA

EYES: Contact with eyes can cause severe burn and permanent eye damage.

SKIN: Contact with skin or mucous membrane will cause severe burns and possible ulceration.

INGESTION: Can result in gastrointestinal damage; burns of the digestive tract.

No component of this chemical is listed in the NTP Annual Report on Carcinogens, IARC Monographs or is regulated as a carcinogen by OSHA.

Medical Conditions Generally Aggravated by Exposure: Pre-existing skin disorders.

234261

6 FIRST AID RECOMMENDATIONS

EYES: Immediately flush eyes in a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. GET MEDICAL ATTENTION.

SKIN: Immediately remove contaminated clothing and shoes. Flush skin thoroughly with water for at least 15 minutes. If irritation persists, GET MEDICAL ATTENTION. Wash contaminated clothing before reuse. Discard non-rubber shoes.

INGESTION: Drink large quantities of water. CORROSIVE. DO NOT INDUCE VOMITING. If vomiting occurs, drink more water. GET MEDICAL ATTENTION. Never give anything by mouth to an unconscious person.

INHALATION: Inhalation hazard is negligible except when misted or heated. If affected, remove to fresh air. If breathing is difficult, administer oxygen. If respiration stops, give mouth to mouth resuscitation. GET MEDICAL ATTENTION.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Wear protective clothing.
Dike to contain spill.
Absorb or otherwise collect spill and store in polyethylene or polyethylene-lined steel container.
Flush the contaminated area with water.

WASTE TREATMENT

This chemical contains phosphates. Waste treatment may be required prior to discharge to sewer.
Dispose of in compliance with all applicable federal, state and local regulations.
This chemical is a hazardous waste as defined by EPA Hazardous Waste and Consolidated Permit Regulations (or consult equivalent state regulations).
Hazardous Waste Characteristic: Corrosivity, Title 40, Code of Federal Regulations, 261.22, Hazardous Waste Number D002.
Contact a licensed disposal agent.

8 PERSONAL PROTECTION

VENTILATION REQUIREMENTS	GENERAL AREA EXHAUST	☐
	LOCAL EXHAUST	☒ None
	NO EXHAUST NECESSARY	☐

PERSONAL PROTECTIVE EQUIPMENT	
EYE PROTECTION	Chemical goggles or face shield.
SKIN PROTECTION	Neoprene or polyvinyl gloves and appropriate protect clothing.
RESPIRATORY PROTECTION	NIOSH approved, if misting occurs.
OTHER REQUIRED EQUIPMENT	Eye wash facility and emergency shower should be in close proximity.

9 SPECIAL PRECAUTIONS & STORAGE

DO NOT GET IN EYES, ON SKIN OR ON CLOTHING.

For industrial use only.

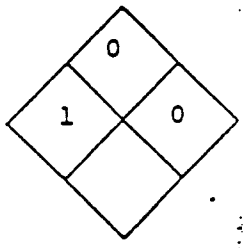
PREPARED BY Product Acceptance Office DATE 10/13/88

TITLE

CHEMICAL EMERGENCY TELEPHONE 1-800-424-9300

Conditions; although the information presented herein is to the best of our knowledge true and accurate, no warra or guarantee, express or implied, whether of merchantability, fitness for any particular purpose or otherwise, is m regarding the information or the performance of any product. In each case we strongly recommend the purchaser fore using any product in full production make their individual tests to verify their own satisfaction with the product is of acceptable quality and is suited for their specific purpose under their own conditions of use. Further, no representative of ours has any authority to waive or change the foregoing provisions. Conversely, our such provisions, our technical personnel are available to assist purchasers in applying our products, for use con lent with their needs and conditions in existence at the time of purchase. Nothing contained herein shall be construed a recommendation to use a product in infringement of any existing patent and we assume no liability for ity for operations which do infringe any such patents. Except as otherwise specifically stated herein, the above damages of any kind, no matter what the cause, including negligence, and is furnished to you for your use solely on produ information of Parker+Amchem and is furnished to you in confidence and should not be otherwise used or disclosed.

AMCHEM PRODUCTS, INC.
Division of Henkel Corporation
300 Brookside Avenue
Ambler, PA 19002



MATERIAL SAFETY DATA SHEET

PRODUCT TRADE NAME	Autophoretic 861 Replenisher
D.O.T. PROPER SHIPPING NAME	Not regulated
D.O.T. HAZARD CLASSIFICATION	None
TECHNICAL CONTACT (NAME)	J. A. Carroll
TELEPHONE NUMBER	(215) 628-1324
EMERGENCY NUMBER	(215) 628-1000

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENT(% WT/WT)	HAZARD	TLV

This product is not manufactured to contain a hazardous component as defined in the following regulations:
49 CFR 172 and 29 CFR 1910.

2 PHYSICAL DATA

APPEARANCE	Dark blue-black liquid	SOLUBILITY IN WATER	Emulsifies
ODOR	Faint characteristic odor	pH OF CONCENTRATE @60 F	N/A
SPECIFIC GRAVITY @60 F	1.19-1.21	BOILING POINT F	>212 F
OTHER	N/A		

3 FIRE AND EXPLOSION DATA

FLASH POINT	None	TEST METHOD	
EXTINGUISHING MEDIA	Water, carbon dioxide, water fog		

UNUSUAL FIRE OR EXPLOSION HAZARDS: Can emit noxious gases if the dried film is exposed to combustion.

SPECIAL FIRE FIGHTING PROCEDURES: Wear positive pressure self contained breathing apparatus.

4 REACTIVITY DATA

STABLE ☒ UNSTABLE ☐ (CONDITIONS TO AVOID)

INCOMPATIBLE MATERIALS

Strong alkalis and some metals such as iron, zinc, and copper.

HAZARDOUS POLYMERIZATION WILL NOT OCCUR ☒

MAY OCCUR ☐

CONDITIONS TO AVOID

HAZARDOUS DECOMPOSITION PRODUCTS

Hydrogen chloride and hydrogen cyanide when dried solids are exposed to high temperatures.

5 HEALTH HAZARD DATA

Skin	Little effect.
Eyes	May irritate.
Ingestion	May irritate mucous membranes.
Inhalation	No adverse effects anticipated.

6 FIRST AID RECOMMENDATIONS

Skin	Wash with soap and water and rinse thoroughly.
Eyes	Flush immediately with copious amounts of water for at least 15 minutes. Call a doctor.
Ingestion	Induce vomiting if a large amount is ingested.
Inhalation	Remove from contaminated area to fresh air.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Transfer unspilled material to a clean polyethylene container. Flush spilled material with water before product dries. Collect spilled material and coagulate with brine solution.

WASTE TREATMENT

Put in containers for disposal according to government regulations.

8 PERSONAL PROTECTION

VENTILATION REQUIREMENTS

GENERAL AREA EXHAUST ☐

LOCAL EXHAUST ☒

NO EXHAUST NECESSARY ☐

PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION: Safety goggles

SKIN PROTECTION: Rubber gloves

RESPIRATORY PROTECTION: If necessary, use a NIOSH approved mist mask.

OTHER REQUIRED EQUIPMENT: N /A

9 SPECIAL PRECAUTIONS AND STORAGE

Store in a cool place but not below 32°F.

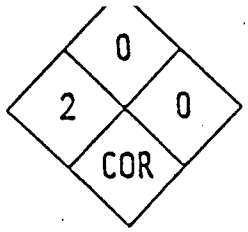
PREPARED BY: John A. carroll

DATE: 11/7/85

TITLE: Manager, Technical Administration

Parker+Amchem

HENKEL CORPORATION
32100 Stephenson Highway
Madison Heights, Michigan 48071



MATERIAL SAFETY DATA SHEET

CUSTOMER #

PRODUCT TRADE NAME	AUTOPHORETIC 219 STARTER
DOT PROPER SHIPPING NAME	Corrosive Liquid, N.O.S.
DOT HAZARD CLASSIFICATION	Corrosive
TECHNICAL CONTACT (NAME)	Product Acceptance Office
TELEPHONE NUMBER	(313) 583-9300 EMERGENCY NUMBER (517) 263-9430

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENTS (% WT/WT)	HAZARD	TLV/PEL
Hydrofluoric Acid	7664-39-3	3-5	Corrosive	2.5 mg/M^3

2 PHYSICAL DATA

APPEARANCE	Light amber solution		
SOLUBILITY IN WATER	Complete	pH of CONCENTRATE	N/A
ODOR	Slight pungent	BOILING POINT, °F.	>212
SPECIFIC GRAVITY	1.05-1.07		

OTHER: N/A

3 FIRE & EXPLOSION DATA

FLASH POINT	None
TEST METHOD	N/A
EXTINGUISHING MEDIA	Water

UNUSUAL FIRE OR EXPLOSION HAZARDS
None

SPECIAL FIRE FIGHTING PROCEDURES
None

THIS PRODUCT CONTAINS TOXIC CHEMICAL(S) SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313, TITLE III OF SARA, PART 372.

4 REACTIVITY DATA

STABLE [X] UNSTABLE [ ]

CONDITIONS TO AVOID

INCOMPATIBLE MATERIALS

Alkalis

HAZARDOUS POLYMERIZATION WILL OCCUR [ ]

WILL NOT OCCUR [X]

CONDITIONS TO AVOID

HAZARDOUS DECOMPOSITION PRODUCTS

Hydrogen fluoride

5 HEALTH HAZARD DATA

Skin:	Very corrosive. Can cause deep tissue destruction which may not be apparent for several hours.
Eyes:	Very corrosive. Anyone whose eyes were exposed should see a doctor.
Ingestion:	Very corrosive to mucous membranes. May be fatal.
Inhalation:	Can be extremely toxic if prolonged.

6 FIRST AID RECOMMENDATIONS

SKIN: Flush with cold water for 5-10 minutes. Soak affected area in an iced solution of ZEPHIRAN CHLORIDE (a readily available product at any drug store). The strength of the soak is 0.13% or 30 cc of 17% ZEPHIRAN CHLORIDE CONCENTRATE per each gallon of iced distilled water. Soak affected part for 1 hour. Call a doctor and make him aware that hydrofluoric acid burns may not become apparent until several hours after exposure.

EYES: Flush immediately with copious amounts of water for at least 15 minutes. Call a doctor.

INGESTION: Drink milk of magnesia, aluminum hydroxide gel, or limewater, followed by several glasses of water. Call a doctor. Do not induce vomiting unless directed by a doctor.

INHALATION: Remove from contaminated area to fresh air. Any exposed person with any respiratory difficulty such as coughing, chest pain, breathing difficulty, dizziness, fatigue, etc., should be examined by a doctor and the doctor made aware of what materials the individual was exposed to.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Transfer any excess to a clean polyethylene container. Neutralize remaining residue with dilute soda ash or lime to pH 7-8.

WASTE TREATMENT

Flush neutralized material to treatment plant with plenty of water and with approval of regulatory agency.

8 PERSONAL PROTECTION

VENTILATION REQUIREMENTS	GENERAL AREA EXHAUST	☐
	LOCAL EXHAUST	☒
	NO EXHAUST NECESSARY	☐

PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION	Safety goggles
SKIN PROTECTION	Rubber gloves and rubber apron
RESPIRATORY PROTECTION	Mist mask - NISH approved.
OTHER REQUIRED EQUIPMENT	None

9 SPECIAL PRECAUTIONS & STORAGE

Store in a cool place.

PREPARED BY

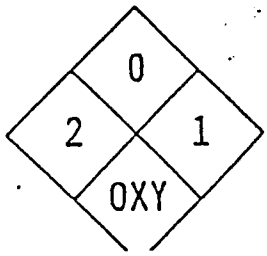
DATE 10/23/86

TITLE

CHEMICAL EMERGENCY TELEPHONE 1-800-424-9300

AMCHEM PRODUCTS, INC.
DIVISION OF HENKEL CORPORATION
300 BROOKSIDE AVENUE
AMBLER, PA 19002

AMCHEM



MATERIAL SAFETY DATA SHI

24
Oxidizer

#5

CUSTOMER

MR. ROBERT TSUKAYAMA
DOUGLAS LOMASON
24600 HAULWOOD COURT
FARMINGTON HILLS, MI 48018

PRODUCT TRADE NAME	AUTOPHORETIC 24 OXIDIZER
DOT PROPER SHIPPING NAME	Hydrogen Peroxide Solution
DOT HAZARD CLASSIFICATION	Oxidizer
TECHNICAL CONTACT (NAME)	Charles Gruszka
TELEPHONE NUMBER	(215) 628-1364
EMERGENCY NUMBER	(215) 628-1000

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENTS (% WT/WT)	HAZARD	TLV
Hydrogen Peroxide	7722-84-1	30-40	Oxidizer	1.5 mg/M^3

2 PHYSICAL DATA

APPEARANCE	Colorless liquid		
SOLUBILITY IN WATER	Complete		
ODOR, @ 60 °F.	None	pH of CONCENTRATE	N/A
SPECIFIC GRAVITY @ 60 °F.	1.12-1.14	BOILING POINT, °F.	N/A
OTHER:	N/A		

3 FIRE & EXPLOSION DATA

FLASH POINT: None
TEST METHOD: N/A
EXTINGUISHING MEDIA: Water
UNUSUAL FIRE OR EXPLOSION HAZARDS
Can cause organic materials to burn and may cause violent reactions on contact with organic materials.
SPECIAL FIRE FIGHTING PROCEDURES
Use large amounts of water.

4 REACTIVITY DATA

STABLE ☒ UNSTABLE ☐

CONDITIONS TO AVOID

INCOMPATIBLE MATERIALS

Organic materials, hexavalent chromium compounds, cyanides, nitric acid, potassium permanganate, reducing agents

HAZARDOUS POLYMERIZATION WILL OCCUR ☐

WILL NOT OCCUR ☒

CONDITIONS TO AVOID

HAZARDOUS DECOMPOSITION PRODUCTS

None

5 HEALTH HAZARD DATA

Skin:	Very irritating.
Eyes:	Very irritating.
Ingestion:	Very irritating to mucous membranes.

6 FIRST AID RECOMMENDATIONS

Skin:	Wash with soap and water and rinse thoroughly.
Eyes:	Flush immediately with copious amounts of water for at least 15 minutes. Call a doctor.
Ingestion:	Dilute by drinking several glasses of water. Call a doctor. Do not induce vomiting unless directed by a doctor.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Transfer any excess to a clean mild steel container. Soak up remaining residue with absorbent material.

WASTE TREATMENT

Either incinerate or put in a landfill with approval of regulatory agency.

8 PERSONAL PROTECTION

VENTILATION REQUIREMENTS	GENERAL AREA EXHAUST	☐
	LOCAL EXHAUST	☒
	NO EXHAUST NECESSARY	☐

PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION	Safety goggles
SKIN PROTECTION	Vinyl gloves and vinyl apron
RESPIRATORY PROTECTION	None
OTHER REQUIRED EQUIPMENT	None

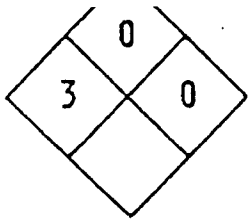
9 SPECIAL PRECAUTIONS & STORAGE

Store in a cool place away from organic materials, combustibles, or alkalis.

PREPARED BY Charles Gruszka DATE 10/14/87

TITLE Senior Chemist

Parker Amchem
HENKEL CORPORATION
32100 Stephenson Highway
Madison Heights, Michigan 48071



MATERIAL SAFETY DATA SHEET

CUSTOMER #

PRODUCT TRADE NAME	AUTOPHORETIC 35 ACTIVATOR
DOT PROPER SHIPPING NAME	Hydrofluoric Acid solution, corrosive material, UN1790
DOT HAZARD CLASSIFICATION	Corrosive
TECHNICAL CONTACT (NAME)	Product Acceptance Office
TELEPHONE NUMBER	(313) 583-9300 EMERGENCY NUMBER 1-517-263-9430

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENTS (% WT/WT)	HAZARD	TLV/PEL
Hydrofluoric Acid	7664-39-3	3-10	Corrosive	2.5 mg/m³* 2.5 mg/m³

*for fluoride

2 PHYSICAL DATA

APPEARANCE	Clear red liquid.		
SOLUBILITY IN WATER	Complete.		
ODOR	Sharp.	pH of CONCENTRATE	<1
SPECIFIC GRAVITY	1.0 - 1.1	BOILING POINT, °F.	>210 F

OTHER: Not applicable.

3 FIRE & EXPLOSION DATA

FLASH POINT: None.
TEST METHOD: Not applicable.
EXTINGUISHING MEDIA: As required to extinguish surrounding fire.
UNUSUAL FIRE OR EXPLOSION HAZARDS
Flammable and explosive hydrogen gas may be formed when hydrofluoric acid reacts with certain metals. Hydrogen fluoride gas may evolve when chemical is subjected to prolonged high temperature.
SPECIAL FIRE FIGHTING PROCEDURES
None.

4 REACTIVITY DATA

STABLE ☒ UNSTABLE ☐

CONDITIONS TO AVOID

Not applicable.

INCOMPATIBLE MATERIALS

This chemical will attack glass, concrete, certain metals, silica containing materials, rubber, leather and many organics. Reacts with cyanides and sulfides to cause release of poisonous gases.

HAZARDOUS POLYMERIZATION WILL OCCUR ☐

WILL NOT OCCUR ☒

CONDITIONS TO AVOID

Not applicable.

HAZARDOUS DECOMPOSITION PRODUCTS

Hydrogen fluoride.

5 HEALTH HAZARD DATA

EYES AND SKIN: Contact with eyes, skin or mucous membranes can cause severe burns which may not be immediately painful or visible. Material causes acid burns; however, in many cases there may be no initial evidence of acid burn. (Delayed ulceration may occur.)

INHALATION: Inhalation of vapors can cause extreme irritation of respiratory tract, pulmonary edema, congestion and fluorosis.

INGESTION: Ingestion could result in tissue destruction of the digestive tract and severe irritation in the respiratory tract.

Medical Conditions Generally Aggravated by Exposure: Respiratory diseases including asthma and emphysema.

CHRONIC: Contains fluoride. Exposure to fluorides over years may cause fluorosis.

No component of this chemical is listed in the NTP Annual Report on Carcinogens, IARC Monographs or is regulated as a carcinogen by OSHA.

6 FIRST AID RECOMME' DATIONS

EYES: Immediately flush e; s in directed stream of water, CONTINUE FLUSHING, UNTIL MEDI L ATTENTION ARRIVES. Hold eyelids apart to ensure complete i: igation of all eye and lid tissue.

SKIN: Immediately flush s n with plenty of water for at least 15 minutes while removing c ntaminated clothing. Soak the affected area for one hour n an iced solution (0.13%) of zephrin chloride (30 cc of 7% concentrate per gallon of iced distilled water).

INGESTION: Drink large qua tities of water. CORROSIVE. DO NOT INDUCE VOMITING. If vo iting occurs, drink more water. GET MEDICAL ATTENTION. Nev r give anything by mouth to an unconscious person.

INHALATION: Remove to fres air and remove contaminated clothing. If breathing is diffi ult, administer oxygen. If respiration stops, give mouth to outh resuscitation. GET MEDICAL ATTENTION.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Wear protective clothing.
Dike to contain spill.
Dilute with water. Sprinkl soda ash or lime over surface to neutralize. Collec and place in suitable drum for disposal.
Flush the contaminated area with water.

WASTE TREATMENT

This chemical is a hazardou waste as defined by EPA Hazardous Waste and Consolidated Perm t Regulations (or consult equivalent state regulations).
Hazardous Waste Characteris ic: Corrosivity, Title 40, Code of Federal Regulations, 261.22 Hazardous Waste Number D002.
Waste treatment and neutral zation may be required prior to discharge to a sewer.
Dispose of in compliance wi h all applicable federal, state and local regulations.

8 PERSONAL PROTECTION

VENTILATION REQUIREMENTS	GENERAL AREA EXHAUST	☐
	LOCAL EXHAUST	☒
	NO EXHAUST NECESSARY	☐

PERSONAL PROTECTIVE EQUIPMENT	
EYE PROTECTION	Chemical goggles, face shield.
SKIN PROTECTION	Neoprene, polyvinyl gloves and apron.
RESPIRATORY PROTECTION	Provide mist protection where applicable. Use NIOSH or MSHA approved respirators.
OTHER REQUIRED EQUIPMENT	Eye wash facility and emergency shower should be in close proximity.

9 SPECIAL PRECAUTIONS & STORAGE

Protect from freezing. Keep container closed. DO NOT BREATHE MIST.

DO NOT GET IN EYES, ON SKIN OR ON CLOTHING.

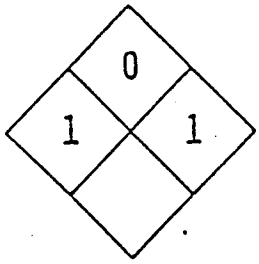
PREPARED BY Product Acceptance Office DATE 07/11/88

TITLE

CHEMICAL EMERGENCY TELEPHONE 1-800-424-9300

Parker+Amchem

HENKEL CORPORATION
32100 Stephenson Highway
Madison Heights, Michigan 48071



MATERIAL SAFETY DATA SHEET

CUSTOMER # #7

PRODUCT TRADE NAME	AUTOPHORETIC 2150 REACTION RINSE
DOT PROPER SHIPPING NAME	Not DOT regulated
DOT HAZARD CLASSIFICATION	None
TECHNICAL CONTACT (NAME)	Product Acceptance Office
TELEPHONE NUMBER	(313) 583-9300 EMERGENCY NUMBER 1-517-263-9430

1 HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	CONTENTS (% WT/WT)	HAZARD	TLV/PEL

This product is not manufactured to contain a hazardous component as defined in the following regulations: 49CFR 172 and 29CFR 1910.

2 PHYSICAL DATA

APPEARANCE	Clear colorless liquid		
SOLUBILITY IN WATER	Complete		
ODOR	Slight ammonia	pH of CONCENTRATE	7.9
SPECIFIC GRAVITY	1.03 - 1.05	BOILING POINT, °F.	>212° F

OTHER: Freezing point: 32° F

3 FIRE & EXPLOSION DATA

FLASH POINT None

TEST METHOD Not applicable

EXTINGUISHING MEDIA As required to extinguish surrounding fire.

UNUSUAL FIRE OR EXPLOSION HAZARDS

Decomposer to ammonia and carbon dioxide in the 50% range. Flammable limits of ammonia are 16-25% ammonia is corrosive and flammable at high temperatures.

SPECIAL FIRE FIGHTING PROCEDURES

Wear positive pressure self-contained breathing apparatus and full protective clothing.

4 REACTIVITY DATA

STABLE ☒ UNSTABLE ☐

CONDITIONS TO AVOID

Storage temperature above 50° C. At temperature above 50° C, may yield ammonium hydroxide solution.

HAZARDOUS POLYMERIZATION WILL OCCUR ☐

WILL NOT OCCUR ☒

CONDITIONS TO AVOID

Not applicable

HAZARDOUS DECOMPOSITION PRODUCTS

Ammonia and oxides of carbon

5 HEALTH HAZARD DATA

EYES: Contact with eyes can cause severe burn and permanent eye damage.

SKIN: Contact with skin can cause irritation. May cause dermatitis.

INGESTION: Ingestion of large quantities may cause headache, nausea, vomiting and perhaps unconsciousness.

No component of this chemical is listed in the NTP Annual Report on Carcinogens, IARC Monographs or is regulated as a carcinogen by OSHA.

Medical Conditions Generally Aggravated by Exposure: Pre-existing skin disorders.

6. FIRST AID RECOMMENDATIONS

EYES: Immediately flush eyes in a directed stream of water for at least 15 minutes--while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. GET MEDICAL ATTENTION.

SKIN: Wash thoroughly with soap and water.

INGESTION: Drink large quantities of water. CORROSIVE. DO NOT INDUCE VOMITING. If vomiting occurs, drink more water. GET MEDICAL ATTENTION. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air and remove contaminated clothing. If breathing is difficult, administer oxygen. If respiration stops, give mouth to mouth resuscitation. GET MEDICAL ATTENTION.

7 SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES

Wear protective clothing.
Dike to contain spill.
Absorb or otherwise collect spill and store in polyethylene or polyethylene-lined steel container.
Notify local city, state or federal agency if spill enters sewers or streams.

WASTE TREATMENT

Contact a licensed disposal agent.
Dispose of in compliance with all applicable federal, state and local regulations.

8 PERSONAL PROTECTION

VENTILATION REQUIREMENTS	GENERAL AREA EXHAUST	☐
	LOCAL EXHAUST	☒ Use with adequate ventilation.
	NO EXHAUST NECESSARY	☐

PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION	Chemical goggles or face shield.
SKIN PROTECTION	Neoprene or polyvinyl gloves and appropriate protective clothing.
RESPIRATORY PROTECTION	Air purifying respirator for ammonia vapor concentration above 25ppm
OTHER REQUIRED EQUIPMENT	Eye wash facility and emergency shower should be in close proximity.

9 SPECIAL PRECAUTIONS & STORAGE

DO NOT GET IN EYES, ON SKIN OR ON CLOTHING.

For industrial use only.

PREPARED BY Product Acceptance Office DATE 10/03/88

TITLE

CHEMICAL EMERGENCY TELEPHONE 1-800-424-9300

APPENDIX H

CARBON AND ZINC SLUDGE ANALYSIS

ASI ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
390 TRABERT AVENUE • ATLANTA, GEORGIA 30309 • (404) 892-8144

LABORATORY REPORTS

Douglas & Lomason
P.O. Box 20783
Atlanta Airport
Atlanta, GA 30320

May 11, 1989

Attention: Mr. Raymond L. Osborne

Report No. 15395

Sample: Red Oak, IA, Wastewater Sludge, Carbon & Zinc, 4/20/89

RESULTS

	Result	Detection Limit
Total Solids @ 105°C (%)	39.7	0.1
Total Cyanide (CN) (mg/kg) (EPA 9010)	BDL	0.2
Total Phenols (as Phenol) (mg/kg) (EPA 9065)	BDL	0.5
Flash Point (Tag Closed Cup) (EPA 1010)	>212°F	32°F
Corrosion Rate on Steel @ 55°C (NACE Standard TM-01-69) (mm/yr)	BDL	0.1
pH (10% with D.I. Water)	7.51	-
pH (final extract)	5.00	-
Reactivity: Cyanide (ppm)	BDL	1
Sulfide (ppm)	BDL	5
Sulfite (ppm)	BDL	5

The material was extracted and analyzed according to the procedures contained in the Code of Federal Regulations, Title 40, part 261 (40 CFR 261). The analysis of the extract is as follows:

Arsenic (As) (mg/1)	BDL	0.05
Barium (Ba) (mg/1)	BDL	0.1
Cadmium (Cd) (mg/1)	0.01	0.01
Chromium (Cr) (mg/1)	0.2	0.04
Lead (Pb) (mg/1)	BDL	0.05
Mercury (Hg) (mg/1)	BDL	0.002
Selenium (Se) (mg/1)	BDL	0.01
Silver (Ag) (mg/1)	BDL	0.05
Hexavalent Chromium (Cr^{+6}) (mg/1)	BDL	0.02
Copper (Cu) (mg/1)	BDL	0.04
Fluoride (F) (mg/1)	8.4	0.1

BDL = Below Detection Limit

Douglas & Lomason

Report No. 15395

RESULTS

	Result	Detection Limit
Nitrate (as NO_3)(mg/1)	BDL	0.1
Zinc (Zn)(mg/1)	128	0.02
Endrin (ug/1)	BDL	0.2
Lindane (ug/1)	BDL	0.5
Methoxychlor (ug/1)	BDL	1
Toxaphene (ug/1)	BDL	2
2,4-D (ug/1)	BDL	0.1
2,4,5-TP Silvex (ug/1)	BDL	0.1

BDL = Below Detection Limit

NOTE: Qualitative chemical analysis indicates that the bulk of the inorganic material is iron aluminum silicates (clay).

Respectfully submitted,

By: F. Denise Lunder

ASI ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
390 TRABERT AVENUE • ATLANTA, GEORGIA 30309 • (404) 892-8144

LABORATORY REPORT

Douglas & Lomason
P.O. Box 20783
Atlanta Airport
Atlanta, GA 30320

May 17, 1989

Attention: Mr. Raymond L. Osborne

Report No. 15395-2

Sample: Red Oak, IA, Wastewater sludge, Carbon & Zinc, 4/20/89

Method: Paint Filter Liquids Test, Method 9095 SW 846.

RESULTS

This sample does not contain any free liquids for the purposes of 40 CFR 264.314 and 265.315.

Respectfully submitted,

By: F. Denise Swanson

APPENDIX I

ZINC PHOSPHATOR SLUDGE ANALYSIS

ASI ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
390 TRABERT AVENUE • ATLANTA, GEORGIA 30309 • (404) 892-8144

LABORATORY REPORT

Douglas & Lomason
P.O. Box 20783
Atlanta Airport
Atlanta, GA 30320

June 20, 1989

Attention: Mr. Raymond L. Osborne

Report No. 15926

Sample: Red Oak, IA, Zinc Sludge-Zinc Phosphator, 5/9/89

RESULTS

	Result	Detection Limit
Moisture & Volatile @ 105°C (%)	29.4	0.01
Water (%)	29.4	0.01
Solvents (%)	BDL	0.001
Total Solids @ 105°C (%)	70.6	0.01
Total Ash @ 600°C (%)	59.8	0.01

Qualitative chemical analysis indicates this to be zinc phosphate, iron salts and sodium phosphates.

Miscellaneous Tests:

Paint Filter Test (EPA 9095)	*	*
Total Cyanide (CN) (mg/kg) (EPA 9010)	BDL	0.5
Total Phenols (as Phenol) (mg/kg) (EPA 9065)	BDL	1
Density (lbs/gal)	9.1	-

BDL = Below Detection Limit

*This sample does not contain any free liquids for the purposes of 40 CFR 264.314 and 265.314.

Douglas & Lomason

Report No. 15926

RESULTS

	Result	Detection Limit
Flash Point (Tag Closed Cup)	>212°F	32°F
Corrosion Rate on Steel @ 55°C (NACE Standard TM-01-69)	BDL	0.1 mm/yr
pH (10% Solution)	5.5	-
pH (final EP Extract)	4.3	-
Reactivity: Cyanide (ppm)	BDL	1
Sulfide (ppm)	BDL	5
Sulfite (ppm)	BDL	5

The material was extracted and analyzed according to the procedures contained in the Code of Federal Regulations, Title 40, part 261 (40 CFR 261). The analysis of the extract is as follows:

Arsenic (As) (mg/l)	BDL	0.05
Barium (Ba) (mg/l)	BDL	0.1
Cadmium (Cd) (mg/l)	0.02	0.01
Chromium (Cr) (mg/l)	BDL	0.04
Lead (Pb) (mg/l)	0.09	0.05
Mercury (Hg) (mg/l)	BDL	0.002
Selenium (Se) (mg/l)	BDL	0.01
Silver (Ag) (mg/l)	BDL	0.04
Hexavalent Chromium (Cr^{+6}) (mg/l)	BDL	0.02
Copper (Cu) (mg/l)	BDL	0.04
Fluoride (F) (mg/l)	*	*
Nitrate (as NO_3) (mg/l)	0.11	0.1
Zinc (Zn) (mg/l)	439	0.02

BDL = Below Detection Limit

*Unable to determine due to phosphate interference.

Douglas & Lomason

Report No. 15926

RESULTS

	Result	Detection Limit
Original basis (calculation)		
Arsenic (As) (mg/kg)	BDL	0.5
Barium (Ba) (mg/kg)	BDL	1
Cadmium (Cd) (mg/kg)	0.4	0.1
Chromium (Cr) (mg/kg)	BDL	0.4
Lead (Pb) (mg/kg)	1.8	0.5
Mercury (Hg) (mg/kg	BDL	0.02
Selenium (Se) (mg/kg)	BDL	0.1
Silver (Ag) (mg/kg)	BDL	0.4
Hexavalent Chromium (Cr^{+6}) (mg/kg)	BDL	0.2
Copper (Cu) (mg/kg)	BDL	0.4
Fluoride (F) (mg/kg)	*	*
Nitrate (as NO_3) (mg/kg)	2.2	1
Zinc (Zn) (mg/kg)	8780	0.2

BDL = Below Detection Limit

*Unable to determine due to phosphate interference.

Respectfully submitted,

By: J. Denise Sanders

APPENDIX J

U.S. ECOLOGY (TRANSPORTER) MEMOS

US Ecology, Inc
9200 Shelbyville Road, Suite 526
P O Box 7246
Louisville, Kentucky 40207
502 426-7160

US Ecology

May 28, 1985

Mr. Dave Cramer
E&C Division
P. O. Box 646
Carrollton, GA 30117

Ref: US Ecology WS#:07-001-8759
Expiration Date:5/13/86

SUBJECT WASTE STREAM:Trivalent Chromium Hydroxide Filtrate Sludge

Dear Mr. Cramer:

US Ecology recently received approval from the Nevada EPA for the disposal of the subject waste stream.

Please notify the Beatty disposal facility (702) 553-2203 at least 48 hours prior to shipment and provide the facility with the following information:

- Date of shipment
- Date of delivery
- U.S. EPA Generator ID Number
- Waste Stream (WS) Number (s)
- Total quantity of each WS number being shipped

It is a U.S. EPA/DOT requirement that each shipment of waste must be accompanied by a Uniform Hazardous Waste Manifest (U.S. EPA Form 8700-22 (3-84)). If the shipment is lab waste, drum inventories must accompany the manifest. Also, the drum number is to be placed on the top of the corresponding drum.

Please enter the US Ecology Waste Stream Number (WS#) in Section 15 (Special Handling Instructions and Additional Information) of the manifest for each waste stream being shipped. In cases where two or more waste streams are entered, the waste stream number is to be placed on top of each drum.

Should you have any questions, contact me at 1-800-626-5317 or your US Ecology Technical Sales Representative. (Please refer to the US Ecology Waste Stream Number above when making inquiries.)

Sincerely,

Ginny Pallo, Supervisor
Market Data Services

GP:jw

US Ecology, Inc.
9200 Shelbyville Road, Suite 300
P.O. Box 7246
Louisville, Kentucky 40207
502/426-7160

USEcology

an *American Ecology* company

May 15, 1990

Mr. Ray Osbourne
DOUGLAS & LOMASON COMPANY
2700 N Broadway
P O Box 117
Red Oak, IA 51566

Ref: US Ecology WS# 07-005-6544
Expiration Date - May 9, 1991
Subject Waste Stream - Carbon & Zinc Wastewater treatment sludge
Generator -

Dear Mr. Osbourne:

US Ecology recently received approval from the Nevada EPA for the disposal of the subject waste stream.

The Uniform Hazardous Waste Manifest (U.S. EPA Form 8700-22) (3-84) and Truck Inventory Sheet must accompany each shipment. If the shipment is lab waste, drum inventories must accompany the manifest. Also, the drum number is to be placed on top of the corresponding drum.

Please notify the Beatty disposal facility (702) 553-2203 at least 48 hours prior to shipment and provide the facility with the following information:

- Date of shipment
- Approximate date of delivery
- U.S. EPA Generator ID Number
- Waste Stream Number(s)
- Total quantity of each WS number being shipped

Any shipment arriving at the facility without prior scheduling and a completed Truck Inventory Sheet will be subject to rejection.

Under conditions of our operating permit, US Ecology is required to inform you that we have all the appropriate permits in order to manage your waste stream.

Should you have any questions, contact your US Ecology Technical Sales Representative or this office. (Please refer to the US Ecology Waste Stream Number above when making inquiries.)

Sincerely,

Ginny Pallo,
Customer Service Representative

GP/jw/0002w

US Ecology, Inc.
9200 Shelbyville Road, Suite 300
P.O. Box 7246
Louisville, Kentucky 40207
502/426-7160

USEcology

an *American Ecology* company

May 18, 1990

Mr. Ray Osborne
DOUGLAS & LOMASON COMPANY
2700 N Broadway
P O Box 117
Red Oak, IA 51566

Ref: US Ecology WS# 07-005-6551
Expiration Date - May 17, 1991
Subject Waste Stream - Zinc SLudge-ZInc Phosphator Tank
Generator -

Dear Mr. Osborne:

US Ecology recently received approval from the Nevada EPA for the disposal of the subject waste stream.

The Uniform Hazardous Waste Manifest (U.S. EPA Form 8700-22) (3-84) and Truck Inventory Sheet must accompany each shipment. If the shipment is lab waste, drum inventories must accompany the manifest. Also, the drum number is to be placed on top of the corresponding drum.

Please notify the Beatty disposal facility (702) 553-2203 at least 48 hours prior to shipment and provide the facility with the following information:

- Date of shipment
- Approximate date of delivery
- U.S. EPA Generator ID Number
- Waste Stream Number(s)
- Total quantity of each WS number being shipped

Any shipment arriving at the facility without prior scheduling and a completed Truck Inventory Sheet will be subject to rejection.

Under conditions of our operating permit, US Ecology is required to inform you that we have all the appropriate permits in order to manage your waste stream.

Should you have any questions, contact your US Ecology Technical Sales Representative or this office. (Please refer to the US Ecology Waste Stream Number above when making inquiries.)

Sincerely,

Ginny Pallo
Customer Service Representative

GP/jw/0002w

APPENDIX K

RECENT WASTE DISPOSAL MANIFESTS

4001240031 5

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. IADO41107871 — Manifest Document No. 00076

2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Douglas + Lomason Company
2700 N Broadway Red Oak, IA 51566

4. Generator's Phone (712) 623-5474

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name
SET ENVIROMENTAL INC

6. US EPA ID Number
ILD981195736

C. State Transporter's ID 0049

D. Transporter's Phone 312-537-9221

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
USEcology 95
Highway
Beatty, Nevada 89003

10. US EPA ID Number
NVT330101000

G. State Facility's ID

H. Facility's Phone 702-553-2203

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Non-Regulated Material-(Non-Hazardous) Dried Paint Waste		023	DM	84222	P	
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above
A. WS# 07-004-5075

K. Handling Codes for Wastes Listed Above
P= Pounds

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name	Signature	Month	Day	Year
Susan Baska	Susan Baska	01	22	90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
David Schneider	David	01	22	90

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Phillip D. Monroe	Phillip D. Monroe	01	24	90

STATE OF ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF LAND POLLUTION CONTROL

SAFETY-KLEEN CORP. STATE PRESCRIBED FORM P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761 State Form LPC 62 8/81 IL532-0610

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS AND SPECIAL WASTE.

NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH **EPA Form 8700-22 (6-89)** Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: IAD041107871 Manifest Document No.: 00009
2. Page 1 of 1 — Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address / Location If Different:
DOUGLAS AND LOMASON, 2700 N. BROADWAY, RED OAK, IA 51566

4. Generator's Phone: (712) 623-5474

A. Illinois Manifest Document Number: IL 5042998 MANIFEST FEE PAID

B. Illinois Generator's ID: 9191375870

5. Transporter 1 Company Name: SAFETY-KLEEN, CORP. 6. US EPA ID Number: ILD051060408

C. Illinois Transporter's ID: 1123

D. (402) 333-6321 Transporter's Phone

7. Transporter 2 Company Name: 8. US EPA ID Number:

E. Illinois Transporter's ID:

F. ( ) Transporter's Phone

9. Designed Facility Name and Site Address: SAFETY-KLEEN, CORP., 633 EAST 138TH STREET, DOLTON, IL 60419 10. US EPA ID Number: ILD980613913

G. Illinois Facility's ID: 0310690006

H. Facility's Phone: (708) 849-4850

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ WASTE PETROLEUM NAPHTHA COMBUSTIBLE LIQUID UN1255 (EPA D001)	08	DM	440	1	EPA HW Number X X D001 Authorization Number 00016
b. RQ WASTE PAINT FLAMMABLE LIQUID UN1263 (EPA D001)	20	DM	1100	1	EPA HW Number X X D001 Authorization Number 00016
c.					EPA HW Number X X Authorization Number
d.					EPA HW Number X X Authorization Number

RECEIVED APR 30 1990

J. Additional Descriptions for Materials Listed Above: TOTAL WEIGHT PER LINE 11A = ~~RED OAK, IA~~ DOUGLAS & LOMASON CO 4221 LBS; 11B = 10610 LBS

K. Handling Codes for Wastes Listed Above in Item #14: 1 = Gallons 2 = Cubic Yards (A.& B.) S02 T50 501 501 R05

15. Special Handling Instructions and Additional Information
(A.) S065530:C045657:(B.)S065539: C045791: 5-127-01-9014 1544851?

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR — Printed/Typed Name: Susan Baska Signature: Susan Baska Date: Month 04 Day 27 Year 90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Printed/Typed Name: EUGENE J SEMPEK JR Signature: [signature] Date: Month 04 Day 09 Year 90

18. Transporter 2 Acknowledgement of Receipt of Materials — Printed/Typed Name: Signature: Date: Month Day Year

FACILITY

19. Discrepancy Indication Space
#1 NOTE ADDITION OF MANIFEST # 00009

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Safety-Kleen Date

Printed/Typed Name: Agnes Adams Signature: Agnes Adams Month 04 Day 27 Year 90

This Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111½ Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) RE0260BD Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. IAD041107871 — Manifest Document No. JAN 25 1989 — 2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
DOUGLAS AND LOAMSON, 2700 N. BROADWAY, RED OAK, IA 51566
DOUGLAS & LOMASON CO RED OAK, IA

A. State Manifest Document Number

B. State Generator's ID

4. Generator's Phone (712) 623-3224

5. Transporter 1 Company Name: SAFETY-KLEEN, CORP.,
6. US EPA ID Number: ILD051060408
C. State Transporter's ID
D. Transporter's Phone (402) 333-6321

7. Transporter 2 Company Name: Schneider tank lines
8. US EPA ID Number: WID980904742
E. State Transporter's ID
F. Transporter's Phone 800 558-5021

9. Designated Facility Name and Site Address
SAFETY-KLEEN, CORP., STATE HWY 146, NEWCASTLE, KY 40050
10. US EPA ID Number: KYD053348108
G. State Facility's ID
H. Facility's Phone (502) 845-2453

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ WASTE COMBUSTIBLE LIQUID N.O.S. NA 1993 (EPA D001)	X	4	DM	2400	P	D001
b. ["Off-spec" paint - got water in it E&E 1990]						
c.						
d.						

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above
(A.) S02/T50

15. Special Handling Instructions and Additional Information
5-127-01-9014: (A.)S65531:C45790::S65540:C45718::S65538:C045719:S65539:C0045791-2
1274826

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name	Signature	Date (Month Day Year)
Susan S. Baska	Susan S. Baska	12 28 89

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
CHARLES D MORSY	Charles D Morsy	12 28 89

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
LARRY DRURY	Larry Drury	01 13 90

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Date (Month Day Year)
Patricia Tindall Sec.	Patricia Tindall	01 13 90

EPA Form 8700-22 (Rev. 9-88) previous editions obsolete

SAFETY-KLEEN CORP.

90290 6

ORIGINAL-RETURN TO GENERATOR

INSTRUCTIONS FOR COMPLETION OF THIS FORM, REFER CODE OF FEDERAL REGULATIONS, 40, PART 262.20.

5-127-01

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: IAD 041107371
Manifest Document No.: 40975
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
DOUGLAS & LOMASON PLANT #8
2700 N BROADWAY PO BOX 117
RED OAK IA 51566
4. Generator's Phone (712) 623-5474

A. State Manifest Document Number
B. State Generator's ID

5. Transporter 1 Company Name: SAFETY-KLEEN CORP.
6. US EPA ID Number: ILD 051060408
C. State Transporter's ID
D. Transporter's Phone 402 333-6321

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
SAFETY-KLEEN CORP.
3515 SO 139TH ST
OMAHA, NE 68144
10. US EPA ID Number: 5-127-01
NED 981495724
G. State Facility's ID
H. Facility's Phone 402 333-6321

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. WASTE PETROLEUM NAPHTHA COMBUSTIBLE LIQUID UN1255(D001)(ERG #27)	X	2	DM	90	P	D001
b. WASTE PETROLEUM NAPHTHA COMBUSTIBLE LIQUID UN1255(D001)(ERG #27)	X	2	DF	54	P	D001
c.						
d. NOTICE: IN ACCORDANCE WITH 40 CFR 268.7, THE GENERATOR PROVIDES NOTICE THAT THE WASTE DESCRIBED AS 'WASTE PETROLEUM NAPHTHA' IS A RESTRICTED WASTE. THE WASTE CONTAINS THE FOLLOWING CONSTITUENTS WHOSE TREATMENT STANDARDS ARE NOTED: TOTAL HALOGENATED ORGANIC COMPOUNDS (1000 MG/L).						

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above

APR 30 1990

DOUGLAS & LOMASON CO.

15. Special Handling Instructions and Additional Information
9018 15180045 140975 5-127-01-7111 11
IF UNDELIVERABLE, RETURN TO GENERATOR.FOR RECYCLE
EMERGENCY RESP#1-708-888-4660
SKDOT# A: 501 B: 501 C: D:

GENERATOR

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR,** if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Susan Baska
Signature: Susan Baska
Date: Month 4 Day 27 Year 90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: CHARLES D. MARSNY
Signature: Charles D. Marsny
Date: Month 4 Day 27 Year 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: CHUCK WEBER
Signature: Chuck Weber
Date: Month 4 Day 27 Year 90

EPA Form 8700-22 (Rev. 9-88) previous editions obsolete

SAFETY-KLEEN CORP.
90290
6

ORIGINAL - RETURN TO GENERATOR

[redacted] U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS FOR COMPLETION OF THIS FORM BEGIN ON PAGE [redacted]

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 0000 Form Approved. OMB No. 2050-0039. Expires 9-30-9

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. IAD041107871. Manifest Document No. 24354

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
DOUGLAS & LOAMSON
2700 N BROADWAY
RedOAK IOWA51566

4. Generator's Phone (712) 623-5474

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: SAFety Kleen CORP.
6. US EPA ID Number: ILD 051060408
C. State Transporter's ID
D. Transporter's Phone (402) 333-6321

7. Transporter 2 Company Name: Schneider Tank Lines
8. US EPA ID Number: WID980904742
E. State Transporter's ID
F. Transporter's Phone 800 558-3091

9. Designated Facility Name and Site Address
SAFety Kleen CORP
State Hwy 146.
Newcastle KY 40050.

10. US EPA ID Number: KYD053348108

G. State Facility's ID

H. Facility's Phone (502) 845-2453

	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	R.Q. WASte COMBustible Liquid N.O.S. NA1993 (EPA D001) 1011	X	16 ~~5~~	DM	7321 ~~2288~~	P	D001
b.	waste xylene FLAMMABLE Liquid UN1307 (EPA F003) (Really D001) 1091	X	5	DM	2288	P	F003
c.	~~R.Q. WASte Petroleum NAPHTHA. COMBustible Liquid UN1255 (EPA D001)~~	X	~~0~~	DM	~~0~~	~~0~~	~~0~~
d.							

J. Additional Descriptions for Materials Listed Above

117300K

K. Handling Codes for Wastes Listed Above
A 502-T50
B 502-T50
C 502-

RECEIVED

15. Special Handling Instructions and Additional Information (A CONTROLL #04505 SAMPLE #065537) (A CONTROLL #045719 SAMPLE #065538) (B CONTROLL #045791 SAMPLE #065539) (CONTROLL #4565 SAMPLE #065530) (A CONTROLL #045718 SAMPLE #065540) (A CONTROLL #045790 SAMPLE #065531 5-127 DOUGLAS & LOMASON RED OAK IA

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: SUSAN BASKA
Signature: Susan Baska
Date: Month 11 Day 13 Year 89

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: CHARLES D. MRSNY
Signature: Charles D. Mrsny
Date: Month 11 Day 13 Year 89

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: PAUL FEAGAN
Signature: Paul Feagan
Date: Month 12 Day 02 Year 89

19. Discrepancy Indication Space
corrected (section) 10 per Suzanne Roden

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: BRUCE E. DENNY
Signature: [signature]
Date: Month 12 Day 06 Year 89

EPA Form 8700-22 (Rev. 9-88) previous editions obsolete

SAFETY-KLEEN CORP

90290

ORIGINAL-RETURN TO GENERATOR

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment, storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 00001 DEC 18 1989

Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. IAD041107571 | Manifest Document No. 97775 DOUGLAS & LOMASON CO RED OAK, IA | 2. Page 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
DOUGLAS & LOMASON
2700 N BROADWAY
RED OAK IA. 51566
4. Generator's Phone (712) 623-5474

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: SAFETY KLEEN Corp | 6. US EPA ID Number: ILD055606408 | C. State Transporter's ID | D. Transporter's Phone (402) 333-6321

7. Transporter 2 Company Name: Schneider Tank Lines | 8. US EPA ID Number: WID988094742 | E. State Transporter's ID | F. Transporter's Phone 800-558-5091

9. Designated Facility Name and Site Address
SAFETY KLEEN CORP
STATE HWY 146
WILKINSTLE KY. 40050
10. US EPA ID Number: KYD 053348108
G. State Facility's ID
H. Facility's Phone (502) 845-2453

	HM	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	X	R.Q. WASTE COMBUSTIBLE LIQUID N.O.S. NA 1993 (EPA D001) 1011	12	DM	5468	P	D001
b.	X	WASTE XYLENE FLAMMABLE LIQUID UN 1307 (EPA F003) (Really D001) 1001 sm 12/2/89	1	DM	458	P	F003
c.	X	R.Q. WASTE PETROLEUM NAPTHA COMBUSTIBLE LIQUID (WAS D001) 1013	1	DM	416	P	D001
d.							

J. Additional Descriptions for Materials Listed Above
11730157

K. Handling Codes for Wastes Listed Above
A 502 - T50
B 502 - T50
C 502 - T50

15. Special Handling Instructions and Additional Information (A CONTROL # 045705 SAMPLE # 065537) (A CONTROL # 045719 SAMPLE # 065538) (B CONTROL # 045791 SAMPLE # 065539) (C CONTROL # 045657 SAMPLE # 065530) (A CONTROL # 045710 SAMPLE # 065540) (A CONTROL # 045790 SAMPLE # 065531) 7111 5-127-01 sm

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Date (Month Day Year)
Susan Baska	Susan Baska	11 14 89

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
CHARLES D. MRSNY	Charles D. Mrsny	11 14 89

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
PAUL FEAGAN	Paul Feagan	12 04 89

FACILITY

19. Discrepancy Indication Space
Corrected section 10 per Suzanne Roden 12-5-89 sm

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Date (Month Day Year)
BRUCE E. DENNY		12 06 89

EPA Form 8700-22 (Rev. 9-88) previous editions obsolete

SAFETY-KLEEN CORP.

90290

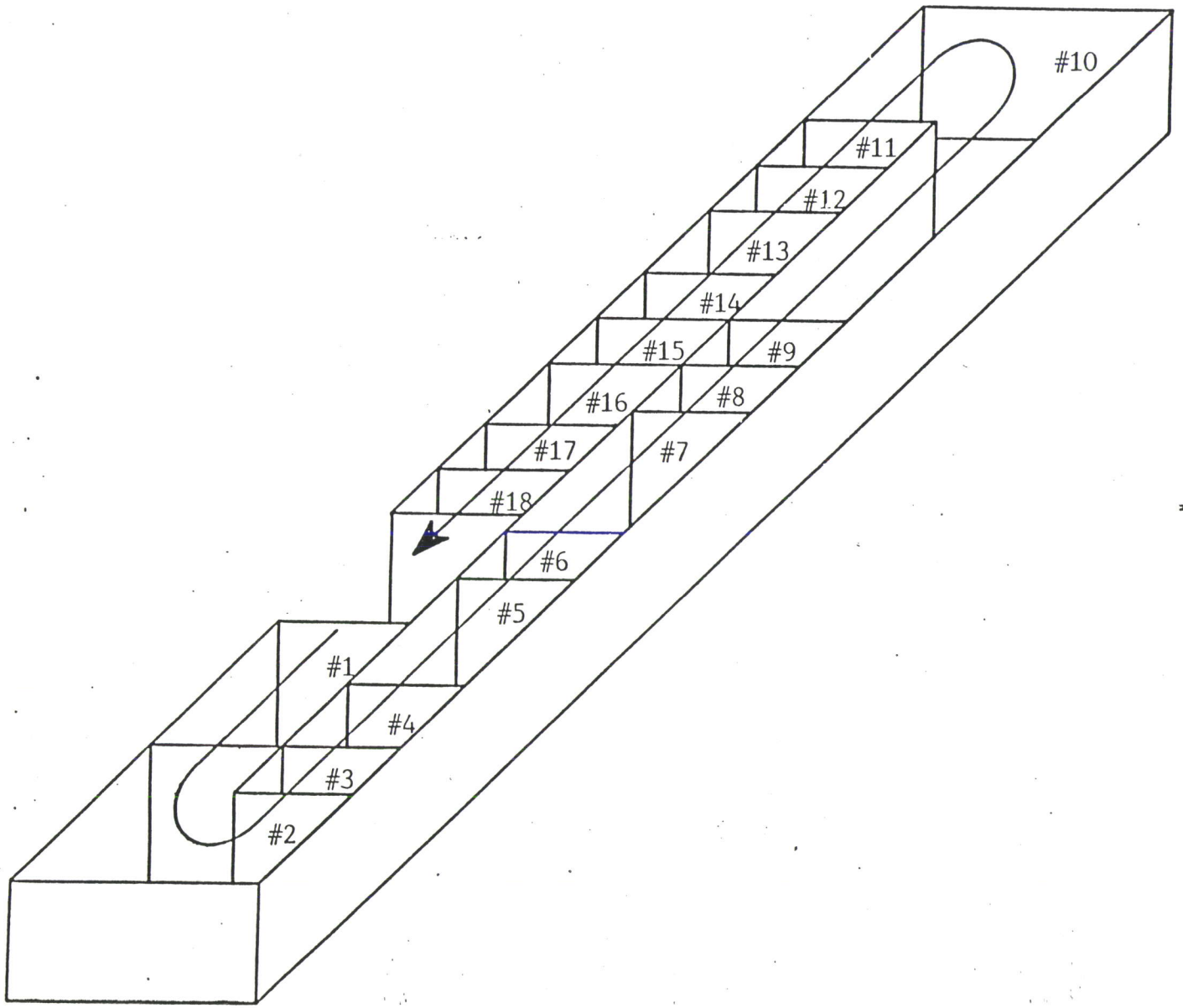
6

ORIGINAL-RETURN TO GENERATOR

INSTRUCTIONS FOR COMPLETION OF THIS FORM. REFER CODE OF FEDERAL REGULATIONS

APPENDIX L

FORMER ZINC PLATING PROCESS



#1 OIL SKIM TANK
#2 SOAK CLEAN TANK
#3 COLD WATER RINSE
#4 COLD WATER RINSE
#5 ELECTRO-CLEAN TANK
#6 COLD WATER RINSE
#7 ACID PICKLE TANK
#8 COLD WATER RINSE
#9 COLD WATER RINSE
#10 ZINC PLATE TANK
#11 COLD WATER RINSE
#12 COLD WATER RINSE
#13 O.D. CHROMATE TANK
#14 CHROME TREATMENT TANK
#15 COLD WATER RINSE
#16 BLACK DYE TANK
#17 COLD WATER RINSE
#18 HOT WATER RINSE

"OLD"

ZINC PLATING SYSTEM
DOUGLAS & LOMASON COMPANY
PLANT #8
RED OAK, IOWA

TANK #13

McGean-Rohco, Inc.

1250 Terminal Tower, Cleveland, Ohio 44113, 216/621-6425

MATERIAL SAFETY DATA SHEET

Product Name: Rodip O.D. Part A #10337		Emergency Phone No.: 216/441-4900
Plant Address: 2910 Harvard Ave., Cleveland, OH 44109		Chemtrec Phone No. 800/424-9300
Prepared By: TSCA Coordinator	Issue Date: 1/80	Revised Date: 5/85

INGREDIENTS AND HAZARDOUS COMPONENTS

Material	%	TLV	C.A.S. #	Suspect Carcinogen
Chromic Acid	10	0.1	7738-94-5	NA
Sodium Chromate	25	* 0.05	7775-11-3	NA
Nitric Acid	5	5	7697-37-2	NA
		Mg/M3		
* As Cr				

PHYSICAL DATA

Boiling Point: >100°C.	Freezing Point: UK	Specific Gravity: 1.13	pH: strongly acidic
Vapor Pressure at 20°C: UK	Vapor Density (Air = 1): UK	% Volatiles by Volume: 80	Odor: slight
Evaporation Rate (Butyl Acetate = 1) ≤1		Solubility in Water: complete	
Appearance and Form: Orange - Red Liquid			

FIRE AND EXPLOSION HAZARD DATA

Flash Point: NA	Flammable Limits in Air: % By Volume Upper: NA Lower:
Test Method: NA	
Extinguishing Media: NA	
Special Fire Fighting Procedures: If involved in fire, use self contained breathing apparatus.	
Unusual Fire and Explosion Hazards: Oxides of nitrogen could be given off	
DOT Classification: corrosive UN-1760	Note: UK = Unknown NA = Not Applicable

HEALTH HAZARD DATA

Effects of Overexposure and Primary Entries to Body:

Primary entry through skin and inhalation of mists. Can cause severe burns to skin and eyes. Can cause ulceration of mucous membranes.

Emergency and First Aid Procedures:

Flush skin and eyes with water for at least 15 minutes. Get medical attention.

REACTIVITY DATA

☒ Stable ☐ Unstable Conditions to Avoid:

Incompatability — Materials to Avoid:

Oxidizable materials

Hazardous Decomposition Products:

NA

Hazardous Polymerization:

☐ May Occur ☒ Will Not Occur

SPILL OR LEAK PROCEDURES

Spills:

Absorb on suitable material. Place in compatible container for transfer to waste treating dept.

Waste Disposal Methods:

Reduce to chromium +3 using reducing agents such as sodium sulfite or ferrous sulfate. Raise pH to 7.5 and precipitate the chrome +3. The precipitate may be disposed of in an EPA approved landfill.

Follow all local, state and Federal regulations

SPECIAL PROTECTION INFORMATION

Respirator: Use only NIOSH or MSHA approved respirator. See NIOSH publication #80-144

Ventilation: Mechanical - sufficient to keep below TLV limits

Gloves:	Eye and Face:	Other:
Rubber	chemical goggles & face shield	sufficient to prevent skin & clothing contact

Handling and Storage:

Store in a well ventilated area away from combustibles

CAPITAL OIL CORPORATION

1128 NORTH 11th STREET • 1-402-346-7441
OMAHA, NEBRASKA 68102

CUSTOMER STATEMENT

No. B 65373

CUSTOMER ACCOUNT NO.	SHIP VIA	CAR NUMBER	TERMS	INVOICE DATE
	Bernie			3-2[illegible]

8-1551

Douglas [illegible]
[illegible] 7
[illegible] 51566

QUANTITY	DESCRIPTION	PRICE	AMOUNT
1000	used oil		$175

JOBBERS OF RE-REFINED OIL
•
WASTE OIL SERVICE

WE HAVE VACUUM RIGS FOR PUMPING OUT WASH PITS AND SUMP HOLES.

THE ABOVE GOODS RECEIVED IN GOOD ORDER

BY [illegible] Dale

THANKS FOR HELPING WITH THE POLLUTION PROGRAM!

CUSTOMER COPY

CAPITAL OIL CORPORATION

1128 NORTH 11th STREET • 1-402-346-7441
OMAHA, NEBRASKA 68102

CUSTOMER STATEMENT

No. B 64513

CUSTOMER ACCOUNT NO.	SHIP VIA	CAR NUMBER	TERMS	INVOICE DATE
	Bonnie		Ck	3-27

D & L
B117
Ref Ck 51566

QUANTITY	DESCRIPTION	PRICE	AMOUNT
600 gallon	used oil & water		$600

JOBBERS OF RE-REFINED OIL
•
WASTE OIL SERVICE

WE HAVE VACUUM RIGS FOR PUMPING OUT WASH PITS AND SUMP HOLES

THE ABOVE GOODS RECEIVED IN GOOD ORDER

BY [illegible signature]

THANKS FOR HELPING WITH THE POLLUTION PROGRAM!

CUSTOMER COPY

APPENDIX M

PAINT WASTES ANALYSES

USEcology

Need assistance in completing this form?
Call Toll Free 800-626-5317

Mail completed form to:

P.O. Box 7246
Louisville, KY 40207

WASTE DISPOSAL INFORMATION

Attach any applicable laboratory analysis or Material Safety Data Sheets (OSHA Form 20).

EPA Generator ID# IAD 04 110 7871 State Generator # *(if applicable)* _____

☐ Check if exempt as small quantity generator. (40 CFR 261.5)

Generator Name: DOUGLAS & LOMASON COMPANY

Generator Facility Address: 2700 N. BROADWAY (P.O. BOX 117) RED OAK, IOWA 51566

Contact Name: RAY OSBORNE Title: CORP. ENV. SPEC. Phone #: 404-349-7000

Broker Name: _____ Contact: _____ Phone #: _____

WASTE/WASTE STREAM NAME: DRIED PAINT WASTE

Describe the Process Generating Waste: FLOW COAT PAINT APPLICATION ON STEEL HARDWARE - PAINT DRIPPINGS, COLLECTED & DRIED ON PLASTIC SHEETING THEN PELLED OFF AND PUT INTO DRUMS.

EPA HAZARDOUS WASTE CODE(S): (40 CFR 261.21-261.33) _____

☒ Check if waste is NOT hazardous per RCRA.

☐ Check if waste is **exempt** per 40 CFR 261.4.

Describe appearance *(e.g. brown powder, etc.)* BLACK RESINOUS PIECES AND GRANULAR ABSORBANT

Is the waste state SOLID per RCRA? ☒ Yes ☐ No

Distinctive Odor? ☒ Yes ☐ No If yes, describe SOLVENT

Density: 67 ☒ lbs./cu. ft. ☐ lbs./gal. ☐ avg. lbs./55-gal. drum

WASTE PROPERTIES

IGNITABILITY (40 CFR 261.21)

Flash Point *(for liquids & sludges)* N/A ° F. (Closed Cup) Range: _____ ° F. to _____ ° F. (SOLID MATERIAL)

Check box if waste ignites when exposed to: ☐ Air ☐ Water ☐ Friction

CORROSIVITY — Is waste corrosive per 40 CFR 261.22? ☐ Yes ☒ No

Enter pH *(for solids, pH of a 1% solution).* 6.45 Range: _____ to _____

REACTIVITY — Is waste reactive per 40 CFR 261.23? ☐ Yes ☒ No

TOXICITY — Does the waste meet the toxicity characteristics for 40 CFR 261.24? ☐ Yes ☒ No

If EP Toxicity test was performed, attach a copy of the test results. COPY ATTACHED

COMPONENTS — *Specific chemical names of components are required. Do NOT use generic names. Account for 100% of the waste. Attach additional pages, if necessary.*

Component	Average or Sample Result	Range	Component	Average or Sample Result	Range
SOYA ALKYD RESIN	83 %	75 - 90 %	TOTAL XYLENES	2 %	1 - 5 %
CLAY AND OIL DRY	8 %	0 - 10 %	AROMATIC HYDROCARBONS	2 %	1 - 5 %
CARBON BLACK	5 %	1 - 5 %	(XYLOL)	_____ %	___ - ___ %

Analytical Technique: PROCESS KNOWLEDGE

Check box if waste contains: ☐ Biologic Mat'ls. ☐ Pathogens ☐ Etiological Agents ☐ Infectious Agents ☐ Carcinogens ☐ Radioactive Mat'ls.

☐ PCB's (as defined by 40 CFR 761) ☐ Dioxins. If yes, has a notice of disposal been filed (40 CFR 775)? _____

U.S. DOT Proper Shipping Name	Hazard Class	UN/NA Code
NON-REGULATED DRIED PAINT WASTE	NON-HAZARDOUS	NA

Proposed Shipping Method: ☒ Drums ☐ Bulk ☐ Other; Describe: _____

Estimated Quantity: 40 DRUMS Frequency: 2 per YEAR (SHIPMENTS)

Special or Unique Handling Instructions: NONE

I certify and warrant that the above waste stream identification for the materials offered for disposal as appears on this form, and the information contained on any attachments or supplements, is true and correct. My certification is based on personal examination of the information submitted, or is based upon my inquiries of those individuals responsible for obtaining the information. I further certify and warrant that the identification is the result of an analysis of a representative sample obtained and analyzed in accordance with testing procedures specified by the U.S. Environmental Protection Agency or by applying knowledge of the process generating the specific waste being offered for disposal.

Signature: Raymond L Osborne Title: CORP. ENV. SPEC. Date: 7/10/89

ASI ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
390 TRABERT AVENUE • ATLANTA, GEORGIA 30309 • (404) 892-8144

LABORATORY REPORT

Douglas & Lomason
P.O. Box 20783
Atlanta Airport
Atlanta, GA 30320

June 15, 1989

Attention: Mr. Raymond L. Osborne

Report No. 15925-3

Sample: Dried Paint Waste, 31 drums, 5/9/89, 1530 hrs.

RESULTS

	Result	Detection Limit
pH (of 1% Solution)	6.45	-

The material was extracted and analyzed according to the procedures contained in the Code of Federal Regulations, Title 40, part 261 (40 CFR 261). The analysis of the extract is as follows:

Arsenic (As) (mg/l)	BDL	0.05
Barium (Ba) (mg/l)	BDL	0.1
Cadmium (Cd) (mg/l)	BDL	0.01
Chromium (Cr) (mg/l)	0.06	0.04
Lead (Pb) (mg/l)	BDL	0.05
Mercury (Hg) (mg/l)	BDL	0.002
Selenium (Se) (mg/l)	BDL	0.01
Silver (Ag) (mg/l)	BDL	0.04

BDL = Below Detection Limit

Respectfully submitted,

By: J. Denise Lunsford

3-16000

PREQUALIFICATION EVALUATION
CUSTOMER SURVEY

REVISED : 11/21/89
CONTROL# : 0045791-2
SAMPLE# : 0965391

* * REVISED * *

safety-kleen

ACCEPT

FLUID RECOVERY

NO ATTACHMENT

* * FLUID RECOVERY * *

CUSTOMER INFORMATION:

DOUGLAS & LOAMSON
2700 N. BROADWAY
RED OAK IA 51566

ATTN: CRAIG MADSEN

BRANCH: 512701 CHUCK WEBER COUNTY: MONTGOMERY
NATURE OF BUSINESS: MFG AUTO SEATS
MANIFEST ADDRESS IS MANIFEST TO SAFETY-KLEEN
MATERIAL: ~~SEMI-SOLID PAINT WASTE~~ PROCESS: PAINTING
VOLUME: 55 GALS PER QUARTER VOLUME ON HAND: 310
STORAGE CAPACITY: 55 IN DRUMS SHIPPING FREQUENCY: QTR IN DRUMS
COLOR: BLACK LAYERS: ONE PHYSICAL STATE: SEMI VISCOSITY: MEDIUM

MATERIAL COMPOSITION(VOL%):	CODE	MIN	MAX	TYPICAL
XYLENES (ORTHO-, META-, AND PARA-)	XYLS	0.0		10.0
SEMI SOLID PAINT		0.0		90.0

RESTRICTED SUBSTANCES: NONE
D.O.T. HAZARDOUS MATERIAL: CUSTOMER REQUEST ASSISTANCE
EPA HAZARDOUS WASTE: CUSTOMER REQUEST ASSISTANCE
P.O. NO: BRANCH: 512701 DATE: 09/13/89
TYPE OF SAMPLE: COMPOSITE NUMBER OF DRUMS SAMPLED: 3 TAKEN BY: SALESREP
CONTACT: CRAIG MADSEN TITLE: SAFETY DIRECTOR PHONE: 712-623-5474

CORPORATE REVIEWS:	DISPOSITION	REVIEWER	DATE
TECHNICAL:	ACCEPT	EJE	10/07/89
REGULATORY:	ACCEPT	TAL	10/07/89
OPERATING:	ACCEPT	JWH	10/10/89

HANDLING CODES: S02/T50 PRICING CODE: FC

APPROVED FACILITIES:

(654) SAFETY-KLEEN CORP
633 EAST 138TH ST
DOLTON IL 60419
FED EPA#: ILD980613913
STATE EPA#: 0310690006
TELEPHONE: 708/849-4850
IL. AUTH#: 000161

(658) SAFETY-KLEEN CORP
STATE HWY 146
NEWCASTLE KY 40050
KYD053348108
502/845-2453

APPROVED 0001058 DRUM OR BULK
DOT-EPA ~~RQ WASTE PAINT~~
DESC. ~~FLAMMABLE LIQUID, UN1263~~
~~(EPA D001)~~
COMMENTS: OK FOR GRINDABLE FUEL. FRS CAT IV-C.
CHANGED SHIPPING DESCRIPTION BASED ON CUST REQUEST. JWH

THIS SERVES AS NOTICE PER, 40CFR264.12(B), THAT THE FACILITY(IES) NOTED ABOVE HAS THE APPROPRIATE PERMITS AND IS WILLING TO RECEIVE THE MATERIAL DESCRIBED.

MEMORANDUM

TO: Susan Baska, Red Oak Plant
FROM: Ray Osborne, Atlanta Office
DATE: February 16, 1990

SUB: Hazardous Waste Classifications
RE: Uniform Hazardous Waste Manifests
A) No. 24354 dated 11-13-89 to Safety Kleen Corp
B) No. 97725 dated 11-14-89 to Safety Kleen Corp

==========

The RCRA classifications on both manifests are in error. The following is the correct RCRA classifications for these materials.

I. Manifest Document No. 24354 dated 11-13-89

Section 11.a.

Listed as D001. However, all analyses conducted by Safety Kleen showed the Flash Point to be greater than 142 degrees F. This makes this material Non-Hazardous by RCRA.

Section 11.b.

Listed as F003. However, should have been listed as D001. Paint had ingredients that are the same chemical as those listed for F003 but did not contain any SPENT SOLVENTS of these chemicals.

II. Manifest Document No. 97725 dated 11-14-89

Section 11.a.

Listed as D001, However, all analyses conducted by Safety Kleen showed the Flash Point to be greater than 142 Degrees F. This makes this material Non-Hazardous by RCRA.

Section 11.b.

Listed as F003. However, should have been listed as D001. Paint had ingredients that are the same chemical as those listed for F003 but did not contain any SPENT SOLVENTS of these chemicals.

Section 11.c.

Listed as D001. This is correct.

Please attach this to your manifests for review by inspectors.

Raymond L Osborne

Ray Osborne
Corporate Environmental Manager

#1a

safety-kleen

80782 - R2271
FLUID RECOVERY SERVICE
CONTROL #: 045790

PRE/SHIP ANALYSIS - COMPLETE 10/04/89
CUSTOMER SURVEY
* * * FLUID RECOVERY SERVICE * * *

REVISED DATE 10/04/89
SAMPLE #: 065531

DOUGLAS & LOAMSON
2700 N. BROADWAY
RED OAK IA 51566

FEDERAL EPA ID:
STATE EPA: IL.:
MANIFEST ADDRESS IS

COUNTY: MONTGOMERY NATURE OF BUSINESS: MFG AUTO SEATS
MO. ID: ID: SIC #:
MANIFEST TO SAFETY-KLEEN

MATERIAL DESCRIPTION:
WASHER SLUDGE OIL
PROCESS DESCRIPTION:
WASHER WATER FALL

VOLUME : 55 GALS PER QUARTER
VOLUME ON HAND : 550
STORAGE CAPACITY : 55 IN DRUMS
SHIPPING FREQUENCY: QTR IN DRUMS
COLOR : BLK
LAYERS : ONE
PHYSICAL STATE: SEMI
VISCOSITY : HIGH

MATERIAL COMPOSITION (VOL%):	MIN	MAX	TYPICAL
SLUDGE OIL			95.0
WATER			5.0
NON-VOLATILE MATERIAL			
SETTLED SOLIDS			

RESTRICTED SUBSTANCES: NONE

D.O.T HAZARDOUS MATERIAL DESCRIPTION: CUSTOMER REQUESTS ASSISTANCE
PROPER SHIPPING NAME:
HAZARD CLASS: HAZARD NO. :

EPA HAZARDOUS WASTE DESCRIPTION: CUSTOMER REQUESTS ASSISTANCE
NO(S):
CODES:

P.O. NO: TYPE OF SAMPLE: COMPOSITE #DRUMS: 5 TAKEN BY: SALESREP
CONTACT: CRAIG MADSEN TITLE: SAFETY DIRECTOR PHONE: 712/623-5474
SALESPERSON: FLUID RECOVERY SERVICES TERRITORY: 6666 BRANCH #: 512701 DATE: 09/13/89

LAB REVIEW:
ACCEPT SEG CODE: RELEASED: 10/03/89
ANALYST: CR REVIEWER: CR ANALYZED: 10/02/89

CORPORATE REVIEWS:	DISPOSITION	REVIEWER	DATE
TECHNICAL:	ACCEPT	CAP	10/03/89
REGULATORY:	ACCEPT	TAL	10/03/89
OPERATING:	ACCEPT	JWH	10/04/89

TRACKING INFO **DATE** **FACILITY**
RECEIVED: 09/19/89 SK TECHNICAL CENTER

HANDLING CODES:
S02/T50

SK D.O.T. #: 0001011 DRUM OR BULK
RQ WASTE COMBUSTIBLE LIQUID N.O.S.
NA1993 (EPA D001)

0000999 SPECIAL NOTICE
PROPER DOT/EPA SHIPPING DESCRIPTION WAS NOT DETERMINED FROM THE ANALYSIS BUT IS BASED ON KNOWLEDGE OF SIMILIAR WASTES.

APPROVED FACILITIES: 658
SAFETY-KLEEN CORP
STATE HWY 146
NEWCASTLE KY 40050
FEDERAL EPA NO: KYD053348108
STATE EPA NO:
TELEPHONE: 502/845-2453

Part a

COMMENT: OK FOR FUEL AND SOLIDS FOR INCINERATION. FRS CAT IV-F PRICING CODE: FF
BASED UPON ANALYSIS.

THIS SERVES AS NOTICE PER. 40CFR264.12(B), THAT THE FACILITY(IES) NOTED ABOVE HAS THE APPROPRIATE PERMITS AND IS WILLING TO RECEIVE THE MATERIAL DESCRIBED.

FLUID RECOVERY SERVICE
[redacted]UGLAS & LOAMSON

MATERIAL ANALYSIS
* * * FLUID RECOVERY SERVICE * * *

REVISED DATE 10/04/88

CONTROL #: 045790
SAMPLE #: 065531

GENERAL COMPOSITION (VOL%):
BY APPEARANCE
[redacted]QUEOUS PHASE: 0.0 %
[redacted]RGANIC PHASE: 40.0 %
[redacted]OTTOM SLUDGE: 0.0 %
BOTTOM SOLID : 60.0 %

GENERAL ANALYSIS: TOTAL SAMPLE
COLOR : BLACK
WATER CONTENT: 5.8 WT%
NON-VOLATILE : 89.9 WT%
PH: EXTRACT BY PAPER 6.0
VISCOSITY : CPS

SPECIFIC GRAVITY AT F 0.000
API GRAVITY : 0.0
FLAMMABILITY : NO FLASH AT 142 F, BY SETAFLASH
RADIOACTIVITY: N.D.
PCB : N.D. < PPM

[redacted]UEL EVALUATION (WT%): TOTAL SAMPLE
[redacted]EAT CONTENT: 7900 BTU/LB
HALOGENS:
ASH: 41.1 %
CHLORINE: 0.9 %
BROMINE: < 0.1 %
FLUORINE: < 0.1 %
SULFUR: 0.2 %
PHOSPHORUS:

[redacted]OLATILE ORGANIC COMPOSITION: TOTAL SAMPLE BY FID UNITS: WEIGHT %
[redacted]ONLY TR[redacted]OLATILE ORGANICS DETECTED 100.0 0.0

SUMMARY

	0.0	KETONES	0.0	CHLORINATED SOLVENTS	0.0
	0.0	ALIPHATIC HYDROCARBONS	0.0	AROMATIC HYDROCARBONS	0.0
COMPOUNDS	0.0	GLYCOL ETHERS	0.0	ETHERS	0.0
	0.0	OTHERS	100.0	MISCELLANEOUS	0.0

ADDITIONAL INFO: NVR SLUDGE. VISC ORG=710,VISC SOLID >50,000;SPGR ORG 0.94,SPGR SOLID N/A.

#2A

safety-kleen

80782 - R2271
FLUID RECOVERY SERVICE
CONTROL #: 045705

PRE/SHIP ANALYSIS - COMPLETE 10/03/89
CUSTOMER SURVEY
* * * FLUID RECOVERY SERVICE * * *

REVISED DATE 10/03/89
SAMPLE #: 065537

DOUGLAS & LOAMSON
2700 N. BROADWAY
RED OAK IA 51566

FEDERAL EPA ID:
STATE EPA: IL.:
MANIFEST ADDRESS IS

COUNTY: MONTGOMERY NATURE OF BUSINESS: MFG AUTO SEATS
MO. ID: ID: SIC #:
MANIFEST TO SAFETY-KLEEN

MATERIAL DESCRIPTION:
HYDRAULIC OIL/WATER WASTE
PROCESS DESCRIPTION:
MACHINES

VOLUME : 55 GALS PER MONTH
VOLUME ON HAND : 110
STORAGE CAPACITY : 55 IN DRUMS
SHIPPING FREQUENCY: MONTHLY IN DRUMS
COLOR : DRK RED/GREY LT.
LAYERS : TWO
PHYSICAL STATE: LIQUID
VISCOSITY : LOW

MATERIAL COMPOSITION (VOL%):	MIN	MAX	TYPICAL
HYDRAULIC OIL			40.0
WATER			60.0
NON-VOLATILE MATERIAL			
SETTLED SOLIDS			

RESTRICTED SUBSTANCES: NONE

D.O.T HAZARDOUS MATERIAL DESCRIPTION: CUSTOMER REQUESTS ASSISTANCE
PROPER SHIPPING NAME:

HAZARD CLASS: HAZARD NO. :

EPA HAZARDOUS WASTE DESCRIPTION: CUSTOMER REQUESTS ASSISTANCE
NO(S):
CODES:

P.O. NO: TYPE OF SAMPLE: COMPOSITE #DRUMS: 3 TAKEN BY: SALESREP
CONTACT: CRAIG MADSEN TITLE: SAFETY DIRECTOR PHONE: 712/623-5474
SALESPERSON: FLUID RECOVERY SERVICES TERRITORY: 6666 BRANCH #: 512701 DATE: 09/13/89

LAB REVIEW:
ACCEPT SEG CODE: RELEASED: 10/02/89
ANALYST: LC REVIEWER: LC ANALYZED: 09/28/89

CORPORATE REVIEWS:	DISPOSITION	REVIEWER	DATE
TECHNICAL:	ACCEPT	CAP	09/28/89
REGULATORY:	ACCEPT	TAL	09/28/89
OPERATING:	ACCEPT	JWH	10/03/89

TRACKING INFO	DATE	FACILITY
RECEIVED:	09/18/89	SK TECHNICAL CENTER

HANDLING CODES:
502/T50

SK D.O.T. #: 0001011 DRUM OR BULK
RQ WASTE COMBUSTIBLE LIQUID N.O.S.
NA1993 (EPA D001)

0000999 SPECIAL NOTICE
PROPER DOT/EPA SHIPPING DESCRIPTION WAS NOT DETERMINED FROM THE ANALYSIS BUT IS BASED ON KNOWLEDGE OF SIMILIAR WASTES.

APPROVED FACILITIES:

654
SAFETY-KLEEN CORP
633 EAST 138TH ST
DOLTON IL 60419
FEDERAL EPA NO: ILD980613913
STATE EPA NO: 0310690006
TELEPHONE: 312/849-4850 **AUTH#** 000161

658
SAFETY-KLEEN CORP
STATE HWY 146
NEWCASTLE KY 40050
KYD053348108
502/845-2453

Part B

COMMENT: OK FOR LOW BTU FUEL. FRS CAT II.

PRICING CODE: F2

THIS SERVES AS NOTICE PER, 40CFR264.12(B), THAT THE FACILITY(IES) NOTED ABOVE HAS THE APPROPRIATE PERMITS AND IS WILLING TO RECEIVE THE MATERIAL DESCRIBED.

FLUID RECOVERY SERVICE
DOUGLAS & LOAMSON

CONTROL #: 045705
SAMPLE #: 065537

GENERAL COMPOSITION (VOL%): BY APPEARANCE

AQUEOUS PHASE:	67.0 %
ORGANIC PHASE:	33.0 %
BOTTOM SLUDGE:	0.0 %
BOTTOM SOLID :	0.0 %

GENERAL ANALYSIS: TOTAL SAMPLE

COLOR	: BROWN/YELLOW
WATER CONTENT:	67.7 WT%
NON-VOLATILE :	29.6 WT%
PH: DIRECT	BY PAPER 7.0
VISCOSITY	: <50 CPS

SPECIFIC GRAVITY AT	72 F 0.950
API GRAVITY	: 0.0
FLAMMABILITY	: NO FLASH AT 142 F BY SETAFLASH
RADIOACTIVITY:	N.D.
PCB	: N.D. < PPM

FUEL EVALUATION (WT%): TOTAL SAMPLE

HEAT CONTENT:	6800 BTU/LB	BROMINE: <	0.1 %
HALOGENS:		FLUORINE: <	0.1 %
ASH:	0.4 %	SULFUR:	0.2 %
CHLORINE:	0.2 %	PHOSPHORUS:	

VOLATILE ORGANIC COMPOSITION: TOTAL SAMPLE BY FID UNITS: WEIGHT %

ONLY TRACE VOLATILE ORGANICS DETECTED 100.0 0.0

SUMMARY:

ALCOHOLS	0.0	KETONES	0.0	CHLORINATED SOLVENTS	0.0
ESTERS	0.0	ALIPHATIC HYDROCARBONS	0.0	AROMATIC HYDROCARBONS	0.0
NITROGEN COMPOUNDS	0.0	GLYCOL ETHERS	0.0	ETHERS	0.0
INHIBITORS	0.0	OTHERS	100.0	MISCELLANEOUS	0.0

ADDITIONAL ANALYTICAL INFO: NVR SLUDGE

#1b

safety-kleen

80762 - R2271
FLUID RECOVERY SERVICE
CONTROL #: 045791

PRE/SHIP ANALYSIS - COMPLETE 10/10/89
CUSTOMER SURVEY
* * * FLUID RECOVERY SERVICE * * *

REVISED DATE 10/10/89
SAMPLE #: 065539

DOUGLAS & LOAMSON
2700 N. BROADWAY
RED OAK IA 51566

FEDERAL EPA ID:
STATE EPA: IL.:
MANIFEST ADDRESS IS

COUNTY: MONTGOMERY
MO. ID:
MANIFEST TO SAFETY-KLEEN

NATURE OF BUSINESS: MFG AUTO SEATS
. ID:
SIC #:

MATERIAL DESCRIPTION:
SEMI SOLID PAINT WASTE
PROCESS DESCRIPTION:
PAINTING

VOLUME : 55 GALS PER QUARTER
VOLUME ON HAND : 310
STORAGE CAPACITY : 55 IN DRUMS
SHIPPING FREQUENCY: QTR IN DRUMS
COLOR : BLACK
LAYERS : ONE
PHYSICAL STATE: SEMI
VISCOSITY : MEDIUM

MATERIAL COMPOSITION (VOL%):	MIN	MAX	TYPICAL
XYLENES (ORTHO-, META-, AND PA			10.0
SEMI SOLID PAINT			90.0
WATER			
NON-VOLATILE MATERIAL			
SETTLED SOLIDS			

RESTRICTED SUBSTANCES: NONE

D.O.T HAZARDOUS MATERIAL DESCRIPTION: CUSTOMER REQUESTS ASSISTANCE
D.O.T SHIPPING NAME:
HAZARD CLASS: HAZARD NO. :

EPA HAZARDOUS WASTE DESCRIPTION: CUSTOMER REQUESTS ASSISTANCE
NO(S):
CODES:

P.O. NO: TYPE OF SAMPLE: COMPOSITE #DRUMS: 3 TAKEN BY: SALESREP
CONTACT: CRAIG MADSEN TITLE: SAFETY DIRECTOR PHONE: 712/623-5474
SALESPERSON: FLUID RECOVERY SERVICES TERRITORY: 6666 BRANCH #: 512701 DATE: 09/13/89

LAB REVIEW:
REJECT SEG CODE: RELEASED: 10/07/89
ANALYST: CR REVIEWER: CR ANALYZED: 10/06/89
PLAN AT 1.3%

CORPORATE REVIEWS:	DISPOSITION	REVIEWER	DATE
TECHNICAL:	ACCEPT	EJE	10/07/89
REGULATORY:	ACCEPT	TAL	10/07/89
OPERATING:	ACCEPT	JWH	10/10/89

TRACKING INFO	DATE	FACILITY
RECEIVED:	09/19/89	SK TECHNICAL CENTER

HANDLING CODES:
S02/T50

SK D.O.T. #: 0001C09 DRUM
WASTE XYLENE
FLAMMABLE LIQUID UN1307
(EPA F003)

This analysis relates to Part B.

APPROVED FACILITIES:	654	1009	658
	SAFETY-KLEEN CORP		SAFETY-KLEEN CORP
	633 EAST 138TH ST		STATE HWY 146
	DOLTON IL 60419		NEWCASTLE KY 40050
FEDERAL EPA NO:	ILD980613913		KYD053348108
STATE EPA NO:	0310690006		
TELEPHONE:	312/849-4850 AUTH# 000161		502/845-2453

COMMENT: OK FOR BLENDABLE FUEL. FRS CAT IV-C. PRICING CODE: FC

THIS SERVES AS NOTICE PER, 40CFR264.12(B), THAT THE FACILITY(IES) NOTED ABOVE HAS THE APPROPRIATE PERMITS AND IS WILLING TO RECEIVE THE MATERIAL DESCRIBED.

PRE/SHIP ANALYSIS - COMPLETE
MATERIAL ANALYSIS
* * * FLUID RECOVERY SERVICE * * *

REVISED DATE 10/10/88

FLUID RECOVERY SERVICE
DOUGLAS & LOAMSON

CONTROL #: 045791
SAMPLE #: 085539

GENERAL COMPOSITION (VOL%): BY APPEARANCE		GENERAL ANALYSIS: TOTAL SAMPLE			
AQUEOUS PHASE:	0.0 %	COLOR	: BLACK	SPECIFIC GRAVITY AT F	0.000
ORGANIC PHASE:	100.0 %	WATER CONTENT:	0.5 WT%	API GRAVITY :	0.0
BOTTOM SLUDGE:	0.0 %	NON-VOLATILE :	41.0 WT%	FLAMMABILITY :	FLASHED AT 100 F BY SETAFLASH
BOTTOM SOLID :	0.0 %	PH: EXTRACT BY PAPER	6.0	RADIOACTIVITY:	N.D.
		VISCOSITY	: >50000 CPS	PCB :	N.D. < PPM

FUEL EVALUATION (WT%): TOTAL SAMPLE

HEAT CONTENT:	15600 BTU/LB	BROMINE: <	0.1 %
HALOGENS:		FLUORINE: <	0.1 %
ASH:	0.3 %	SULFUR: <	0.1 %
CHLORINE:	0.1 %	PHOSPHORUS:	

VOLATILE ORGANIC COMPOSITION: TOTAL SAMPLE BY UNITS: WEIGHT %

XYLENES (ORTHO-, META-, AND PARA-)	61.7	ETHYLBENZENE	15.0
LIGHT ALIPHATIC HYDROCARBONS (C5-C8)	13.5	MEDIUM ALIPHATIC HYDROCARBONS (C9-C13)	5.8
TOLUENE	2.3	PHTHALIC ANHYDRIDE	1.3
TOTAL OTHERS (<1.0% EACH)	0.4		

SUMMARY:							
	ALCOHOLS	0.0	KETONES	0.0	CHLORINATED SOLVENTS	0.0
	ESTERS	0.0	ALIPHATIC HYDROCARBONS	19.3	AROMATIC HYDROCARBONS	79.0
	NITROGEN COMPOUNDS	0.0	GLYCOL ETHERS	0.0	ETHERS	0.0
	INHIBITORS	0.0	OTHERS	1.7	MISCELLANEOUS	0.0

ADDITIONAL ANALYTICAL INFO: NVR SOLID

premixed

#C

safety-kleen

60782 - R2271
FLUID RECOVERY SERVICE
CONTROL #: 045687

PRE/SHIP ANALYSIS - COMPLETE 09/29/89
CUSTOMER SURVEY
* * * FLUID RECOVERY SERVICE * * *

REVISED DATE 09/29/89
SAMPLE #: 065530

DOUGLAS & LOAMSON
2700 N. BROADWAY
RED OAK IA 51566

FEDERAL EPA ID:
STATE EPA: IL.:
MANIFEST ADDRESS IS
COUNTY: MONTGOMERY NATURE OF BUSIN MFG AUTO SEATS
MO. ID: . ID: SIC #:
MANIFEST TO SAFETY-KLEEN

MATERIAL DESCRIPTION:
PAINT WASTE
PROCESS DESCRIPTION:
PAINTING

VOLUME : 55 GALS PER QUARTER
VOLUME ON HAND : 55
STORAGE CAPACITY : 55 IN DRUMS
SHIPPING FREQUENCY: QTR IN DRUMS
COLOR : SILVER
LAYERS : TWO
PHYSICAL STATE: LIQUID
VISCOSITY : LOW

MATERIAL COMPOSITION (VOL%):	MIN	MAX	TYPICAL
PAINT			90.0
XYLENES (ORTHO-, META-, AND PA			5.0
WATER			
NON-VOLATILE MATERIAL			
SETTLED SOLIDS			5.0

RESTRICTED SUBSTANCES: NONE

D.O.T HAZARDOUS MATERIAL DESCRIPTION: CUSTOMER REQUESTS ASSISTANCE
PROPER SHIPPING NAME:

HAZARD CLASS: HAZARD NO. :

EPA HAZARDOUS WASTE DESCRIPTION: CUSTOMER REQUESTS ASSISTANCE
NO(S):
CODES:

P.O. NO: TYPE OF SAMPLE: COMPOSITE #DRUMS: 1 TAKEN BY: SALESREP
CONTACT: CRAIG MADSEN TITLE: SAFETY DIRECTOR PHONE: 712/623-5474
COMMENT: QA SPLIT BY GLL 09/18/89. SINGLE PHASE FUEL.
SALESPERSON: FLUID RECOVERY SERVICES TERRITORY: 6666 BRANCH #: 51270I DATE: 09/13/89

LAB REVIEW:
ACCEPT SEG CODE: RELEASED: 09/28/89
ANALYST: GLL REVIEWER: GLL ANALYZED: 09/26/89

CORPORATE REVIEWS:	DISPOSITION	REVIEWER	DATE
TECHNICAL:	ACCEPT	EJE	09/27/89
REGULATORY:	ACCEPT	CAP	09/27/89
OPERATING:	ACCEPT	JWH	09/29/89

TRACKING INFO	DATE	FACILITY
RECEIVED:	09/18/89	SK TECHNICAL CENTER

HANDLING CODES:
S02/T50

SK D.O.T. #: 0000527 DRUM >100 LB
RQ WASTE PETROLEUM NAPHTHA
COMBUSTIBLE LIQUID UN1255 (EPA D001)

APPROVED FACILITIES: 658
SAFETY-KLEEN CORP
STATE HWY 146
NEWCASTLE KY 40050
FEDERAL EPA NO: KYD053348108
STATE EPA NO:
TELEPHONE: 502/845-2453

654
SAFETY-KLEEN CORP
633 EAST 138TH ST
DOLTON IL 60419
ILD980613913
0310690006
312/849-4850 AUTH# 000161

Part C

COMMENT: OK FOR FUEL. FRS CAT I.

PRICING CODE: F1

THIS SERVES AS NOTICE PER, 40CFR264.12(B), THAT THE FACILITY(IES) NOTED ABOVE HAS THE APPROPRIATE PERMITS AND IS WILLING TO RECEIVE THE MATERIAL DESCRIBED.

SAFETY-KLEEN CORP
PRE/SHIP ANALYSIS - COMPLETE
MATERIAL ANALYSIS
* * * FLUID RECOVERY SERVICE * * *

09/29/89

REVISED DATE 09/29/89

[redacted]LUID RECOVERY SERVICE
DOUGLAS & LOAMSON

CONTROL #: 045857
SAMPLE #: 065530

GENERAL COMPOSITION (VOL%): BY APPEARANCE

AQUEOUS PHASE:	0.0 %
ORGANIC PHASE:	100.0 %
BOTTOM SLUDGE:	0.0 %
BOTTOM SOLID :	0.0 %

GENERAL ANALYSIS: TOTAL SAMPLE

COLOR	: GREY
WATER CONTENT:	0.9 WT%
NON-VOLATILE :	50.5 WT%
PH: EXTRACT BY PAPER	6.0
VISCOSITY	: 260 CPS

SPECIFIC GRAVITY AT 72 F	0.910
API GRAVITY	: 0.0
FLAMMABILITY	: FLASHED AT 140 F BY SETAFLASH
RADIOACTIVITY:	N.D.
PCB	: N.D. < PPM

FUEL EVALUATION (WT%): TOTAL SAMPLE

HEAT CONTENT:	17800 BTU/LB	BROMINE:	< 0.1 %
HALOGENS:		FLUORINE:	< 0.1 %
ASH:	11.2 %	SULFUR:	0.1 %
CHLORINE:	0.3 %	PHOSPHORUS:	

VOLATILE ORGANIC COMPOSITION: TOTAL SAMPLE BY FID UNITS: WEIGHT %

MINERAL SPIRITS, ALIPHATIC (C9-C13)	100.0	0.0

SUMMARY:

ALCOHOLS	0.0	KETONES	0.0	CHLORINATED SOLVENTS	0.0
ESTERS	0.0	ALIPHATIC HYDROCARBONS	100.0	AROMATIC HYDROCARBONS	0.0
NITROGEN COMPOUNDS	0.0	GLYCOL ETHERS	0.0	ETHERS	0.0
INHIBITORS	0.0	OTHERS	0.0	MISCELLANEOUS	0.0

ADDITIONAL ANALYTICAL INFO: NVR SLUDGE. NO FLASH AT 102F.

APPENDIX N

WASHER SLUDGE ANALYSIS

A & L MID WEST AGRICULTURAL LABORATORIES, INC.
13611 "B" Street • Omaha, Nebraska 68144 • Phone: 402-334-7770

REPORT NUMBER 5-262-700

September 19, 1985

Douglas Lomason & Company #10476
Gary Rhamy
Box 117
Red Oak, IA 51566

SUBJECT: Environmental Analysis

Date sampled:
Date received: 9-6-85

Lab No.	Sample Ident.	Analysis	Level	Detection Limit	Method
1801	Sludge	EP Toxicity			
		Arsenic	0.067 ppm	0.002 ppm	Hydride
		Barium	Less than 0.5 ppm	0.5 ppm	Flame AA
		Cadmium	Less than .01 ppm	0.01 ppm	Flame AA
		Chromium	Less than .10 ppm	0.10 ppm	Flame AA
		Lead	Less than .10 ppm	0.10 ppm	Flame AA
		Mercury	Less than .003 ppm	0.003 ppm	Cold Vapor
		Selenium	Less than .001 ppm	0.001 ppm	Hydride
		Silver	Less than .03 ppm	0.03 ppm	Flame AA

WASHER SLUDGE

Comments:

Initial pH	9.1
Final pH	4.9

Respectfully submitted,

A & L MID WEST AGRICULTURAL LABORATORIES, INC.

Cheryl A. Davis

Cheryl Davis
Environmental Services

ASI

ANALYTICAL SERVICES, INC.

ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
390 TRABERT AVENUE ● ATLANTA, GEORGIA 30309 ● (404) 892-8144
FAX (404)892-2740 ● Federal I.D. #58-1625655

LABORATORY REPORT

Douglas & Lomason
P.O. Box 20783
Atlanta Airport
Atlanta, GA 30320

July 19, 1990

Attention: Mr. Raymond L. Osborne

Report No. 21604-1

Sample: Red Oak, IA, Washer sludge with Soraband only, 5/15/90, received 6/6/90

RESULTS

	Result	Detection Limit
Moisture and Volatile @ 105°C (%)	37.6	0.01
Water (Karl Fischer)(%)	37.6	0.1
Solvent	BDL	0.01
Total Solids @ 105°C (%)	62.4	0.01
Volatile Solids @ 600°C (%)	10.5	0.01

Qualitative chemical analysis indicates this to be chiefly carbonates and occluded water.

Fixed Solids @ 600°C (%)	51.9	0.01

Qualitative chemical analysis indicates this to be chiefly silica (sand).

Metal Analysis:

Total Arsenic (As)(ppm)	BDL	0.3
Total Barium (Ba)(ppm)	79	1.0
Total Cadmium (Cd)(ppm)	4.0	1.0
Total Chromium (Cr)(ppm)	8.0	1.0
Total Mercury (Hg)(ppm)	BDL	0.001
Total Lead (Pb)(ppm)	42	0.5
Hexavalent Chromium (Cr^{+6})(ppm)	BDL	1
Total Selenium (Se)(ppm)	BDL	0.4
Total Silver (Ag)(ppm)	BDL	1.0
Total Copper (Cu)(ppm)	85	1.0

BDL = Below Detection Limit

RESULTS

Metal Analysis, contd.	Result	Detection Limit
Total Nickel (Ni)(ppm)	33	1.0
Total Thallium (Tl)(ppm)	BDL	10.0
Total Zinc (Zn)(ppm)	127	0.5

Compositional Analysis:

Water	38%	-
Silica (Sand)	53.5%	-
Clay (Aluminum Silicate)	5.5%	-
Iron Oxide (Rust)	3.0%	-

Miscellaneous Tests:

Paint Filter Test	Passes Test	-
Density @ 70°F	1.1	-
pH (laboratory)	9.7	-

The material was extracted and analyzed according to the procedures contained in the Code of Federal Regulations, Title 40, part 261 (40 CFR 261). The analysis of the extract is as follows:

Arsenic (As)(mg/l)	BDL	0.03
Barium (Ba)(mg/l)	0.06	0.01
Cadmium (Cd)(mg/l)	0.02	0.01
Chromium (Cr)(mg/l)	0.02	0.01
Lead (Pb)(mg/l)	0.05	0.025
Mercury (Hg)(mg/l)	BDL	0.0005
Selenium (Se)(mg/l)	BDL	0.01
Silver (Ag)(mg/l)	BDL	0.01

BDL = Below Detection Limit

Respectfully submitted,

By: Denise S. Jeies

ASI

ANALYTICAL SERVICES, INC.

ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
390 TRABERT AVENUE ● ATLANTA, GEORGIA 30309 ● (404) 892-8144
FAX (404)892-2740 ● Federal I.D. #58-1625655

LABORATORY REPORT

Douglas & Lomason
P.O. Box 20783
Atlanta Airport
Atlanta, GA 30320

July 19, 1990

Attention: Mr. Raymond L. Osborne

Report No. 21604-2

Sample: Red Oak, IA, Washer sludge with Soraband and Pozzoline, 5/15/90 received 6/6/90

RESULTS

	Result	Detection Limit
Moisture and Volatile @ 105°C (%)	30.0	0.01
Water (Karl Fischer)(%)	30.0	0.1
Solvent	BDL	0.01
Total Solids @ 105°C (%)	70.0	0.01
Volatile Solids @ 600°C (%)	19.6	0.01

Qualitative chemical analysis indicates this to be chiefly carbonates and occluded water.

Fixed Solids @ 600°C (%)	50.4	0.01

Qualitative chemical analysis indicates this to be chiefly clay (aluminum silicates) and calcium sulfate.

Metal Analysis:

Total Arsenic (As)(ppm)	BDL	0.3
Total Barium (Ba)(ppm)	218	1.0
Total Cadmium (Cd)(ppm)	13	1.0
Total Chromium (Cr)(ppm)	1150	1.0
Total Mercury (Hg)(ppm)	BDL	0.001
Total Lead (Pb)(ppm)	132	0.5
Hexavalent Chromium (Cr^{+6})(ppm)	BDL	0.4
Total Selenium (Se)(ppm)	BDL	1.0
Total Silver (Ag)(ppm)	BDL	1.0
Total Copper (Cu)(ppm)	910	1.0

BDL = Below Detection Limit

RESULTS

	Result	Detection Limit
Total Nickel (Ni)(ppm)	197	1.0
Total Thallium (Tl)(ppm)	BDL	10.0
Total Zinc (Zn)(ppm)	3190	0.5

Compositional Analysis:

Water	30%	-
Silica (Sand)	50.5%	-
Clay (Aluminum Silicate)	16.0%	-
Iron Oxide (Rust)	3.5%	-

Miscellaneous Tests:

Paint Filter Test	Passes Test	-
Density @ 70°F	1.2	-
pH (laboratory)	9.7	-

The material was extracted and analyzed according to the procedures contained in the Code of Federal Regulations, Title 40, part 261 (40 CFR 261). The analysis of the extract is as follows:

Arsenic (As)(mg/l)	BDL	0.03
Barium (Ba)(mg/l)	0.28	0.01
Cadmium (Cd)(mg/l)	0.05	0.01
Chromium (Cr)(mg/l)	0.37	0.01
Lead (Pb)(mg/l)	0.23	0.025
Mercury (Hg)(mg/l)	BDL	0.0005
Selenium (Se)(mg/l)	BDL	0.01
Silver (Ag)(mg/l)	BDL	0.01

BDL = Below Detection Limit

Respectfully submitted,

By: Denise S. Geier

APPENDIX O

INFORMATION RESPONSE LETTERS FROM DOUGLAS & LOMASON

DOUGLAS & LOMASON COMPANY

Corporate Offices: 24600 Hallwood Court, Farmington Hills, Michigan 48331-4508 • *Telephone (313)478-7800*

Please Reply to:
P.O. Box 20783, Atlanta Airport
Atlanta, Georgia 30320
Telephone (404) 349-7000

May 23, 1990

Ms. Sharon P. Martin
ECOLOGY AND ENVIRONMENT, INC.
Cloverleaf Bldg. 3
6405 Metcalf
Overland Park, KS 66202

RE: VSI
Douglas & Lomason Company
Red Oak, IA

Dear Ms Martin:

Please find enclosed the information that you requested on May 8, 1990 during your inspection of the above referenced facility.

The following information is enclosed:

1) Schematic of Plant Property
2) Schematic of Plant Layout
3) Schematic of Wastewater Treatment, Autophoretic, and Zinc Phosphator
4) Description of Wastewater Treatment
5) Description of Zinc Phosphator and copy of MSDSs
6) Description of Autophoretic and copy of MSDSs
7) MSDSs for Painting System
8) MSDS for previously used chrome solution for "Old" Zinc Plating process
9) Copies of current Special Waste Authorizations and Waste Stream Approvals from US Ecology.
10) Copies of latest manifests for wastes shipped offsite
11) Copy of current wastewater discharge permit with the City of Red Oak, IA
12) Copies of the last two Customer Statements of oil shipped offsite which displays the amount of each shipment.

Also, you requested additional information concerning the Mineral Spirit leak found on August 6, 1987.

As stated in Douglas & Lomason Company's letter dated September 10, 1987 signed by Mr. Gary W. Rhamy to Mr. Michael J. Sanderson of EPA Region VII, the galvanized steel pipe was replaced with a PVC threaded pipe compatible with the solvent and the visually contaminated soil was removed.

Discussions with Mr. Gary W. Rhamy on Wednesday May 9, 1990 resulted in the following additional information.

The liquid portion of the Mineral Spirit leak was collected and placed back into the paint system. The soil that was visually contaminated with the Mineral Spirit was excavated. An area approximately four feet in diameter and three feet deep was removed. This excavated area was in excess of the visually contaminated soil. The resultant hole was then back filled. No liquid waste was produced.

As confirmed by your inspection, the pipe was replaced with PVC. The leak resulted from an elbow that had deteriorated due to corrosion at the threads. The PVC pipe was still in good condition.

Also, according to Mr. Rhamy, who was present during the inspection of August 8, 1987, the term "extensive", which you indicated was used in the Inspector's field report, could not in any way describe this leak.

As was confirmed during the inspection, this release was not from a "Solid Waste Management Unit" and could not be defined as being "routine, systematic and deliberate".

If additional information is needed, please contact me at (404) 349-7000.

Sincerely,

DOUGLAS & LOMASON COMPANY

Raymond L. Osborne
Corporate Environmental Manager

ecology and environment, inc.
CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913/432-9961
International Specialists in the Environment

MEMORANDUM

TO: Raymond Osborne, D & L

CC: Ken Herstowski, EPA

FROM: Sharon Martin, E & E

DATE: June 13, 1990

SUBJECT: Additional information needed for the Red Oak facility.
TDD #F-07-9002-006 PAN #FIA0261RA

I have finished the first draft of the site-related sections of the Preliminary Assessment Ecology and Environment, Inc. Field Investigation Team (FIT) is doing for the Region VII EPA. However, I have a number of unconfirmed assumptions, questions, and missing details to resolve. Can you obtain this information soon and either FAX or send by a Federal Express type courier?

The questions largely center on the various SWMUs and areas of concern at the plant and are so organized. Please call if further clarification is needed.

Also, please describe inspection and security measures at this facility (e.g. how often are waste areas inspected and for what? and is a 24-hour guard present?)

Describe any release controls/spill prevention measures and indicate start-up dates for SWMUs/Areas of Concern:

1). Pre-Paint Washer System
2). Zinc Phosphator (grated floor drains present)
3). Wastewater treatment system before recent upgrade (e.g. batch treatment tank, equalization tank, etc.) (grated floor drains and sump present)
4). Painting operations (e.g. mixing tank, drying oven, painting tunnel, etc.)
5). Interior Hazardous Waste Accumulation Area (since inception of plant to 1984 - 1985?)
6). Exterior Drum Storage Area near southwest corner of plant
7). Exterior Drum Storage Area to north of Painting Building
8). Used Oil Storage Area (6-inch dike)
9). Safety-Kleen Parts Cleaners
10). Mineral Spirits Tank/Underground Line System (inventory)

Dimensions/capacity and construction materials:

1). Mixing Tank - steel, size?
2). Clarifier - steel, size?
3). Filter Press Roll-off bins - steel, size?
4). Drying oven - construction materials, size?
5). Neutralization Precipitation Tank - polyethylene? 1,000 gallons
6). Flocculant Tank - polyethylene? 400 gallons

Paint System Wastes

I am very unclear on the generation of paint wastes. Please describe the routine generation of painting wastes as well as the annual paint system clean-out. I understand that sludge is removed from the mixing tank approximately once per year producing approximately 1/2 55-gallon drum, but I am unsure how often other cleaning operations are conducted (e.g. how often are the absorbent pads under the drip lines removed? and what types and volumes of waste are produced?) Please specify the physical nature of the wastes as they appear in the waste-stream (i.e. liquid, sludge, or solid) and if any on-site treatment is conducted (e.g. adding of absorbent). You may compare your description to that in the 1988 RCRA inspection report as that is the most descriptive information currently available in the file.

Also, is a satellite drum storage area still used for the paint wastes and are the drums closed during such temporary storage? Please send all paint waste manifests and analyses for the past year. If analyses have not been conducted during the past year, please send the latest analyses for each type of paint waste. The manifest of paint waste for April 9, 1990, indicates 10,610 pounds of flammable liquids. Please describe these wastes. Also, the weight of the petroleum naptha on this manifest is unclear.

Please describe the drying oven. Does the monorail system serve the drying oven?

Zinc Phosphator

Has waste sludge from Tanks 5, 6, and 7 always been shoveled out separately or did it once go through the wastewater treatment process? There is no mention of zinc phosphate sludge being stored in Interim Storage Area A & B. You indicated this sludge is cleaned out approximately once per month. What is the average monthly generation rate or volume? Did I understand you to indicate that all drums present in the southwestern drum storage area were zinc phosphate sludge? I also recall mention of 13 drums of washer sludge accumulated on site. Where were these 13 drums stored? Do any of the other vats in this system or the autophoretic unit ever require cleaning out of sludge residues?

Used Oil Storage Area

Have this area always been at its present location or was the location changed when the diked pad was poured? If the location was changed, please provide the date of change and previous location.

Mineral Spirits Tank/Pipeline System

Was the entire underground line once galvanized steel and was the entire underground portion of this line replaced with PVC following the 1987 leak? If the entire line was replaced, were any other corroded and/or leaking areas noted? How often is inventorying conducted for the storage tank?

Pre-paint Washing System

The 1988 RCRA inspection report also describes this unit. Are there any error or changes in this description? How is the wastewater diverted to the wastewater treatment system. Are oils skimmed from this wastestream or how are forming oils on the metal parts separated for recycling? How often is sludge cleaned from the system and what is the

average generation rate or volume? Please provide the most recent analyses for the sludge.

Safety-Kleen Parts Cleaners

Are these both 16-gallon capacity cleaners? What is the average rate or volume of spent solvent generated?

Wastewater Treatment

When was this discharge permit first issued? Were parameters ever exceeded? Is the filter press sludge transferred to drums before off-site transport? If not, is there a storage area for these roll-off bins? Is hydrochloric or sulfuric acid used for pH adjustment? In what form is Ca^{++} added and for what specific purposes? What polymer is used for colloidal formation?

Interim Storage Areas A and B

Please provide orientation of longest dimension.

- Area A - east-west?
- Area B - north-south?

Thanks very much for your assistance.

DOUGLAS & LOMASON COMPANY

Corporate Offices: 24600 Hallwood Court, Farmington Hills, Michigan 48331-4508 • *Telephone (313)478-7800*

Please Reply to:
P.O. Box 20783, Atlanta Airport
Atlanta, Georgia 30320
***Telephone* (404) 349-7000**

July 26, 1990

Ms. Sharon P. Martin
ECOLOGY AND ENVIRONMENT, INC.
Cloverleaf Bldg. 3
6405 Metcalf
Overland Park, KS 66202

RE: Douglas & Lomason company
Red Oak, IA
Additional Information

Dear Ms. Martin:

As requested in your memo dated June 13, 1990, the following information is provided. Due to turn-over of plant personnel and the lack of detail records, it is difficult to establish exact dates and information in many areas.

Current waste areas are inspected weekly for leaks/spills and to ensure that lids are on drums and that they are secure and properly arranged. All Hazardous Waste is shipped off site within 90 days. The plant is fenced-in and has a 24 hour guard on duty.

1) The paint washer system, along with the painting system, was installed in the mid-1970's and modified/expanded in 1983 to its present size. It is located inside an enclosed building and an attendant is present during operation. MSDSs for chemicals that are utilized in the cleaning process have been submitted and present no significant environmental problem.

2) The Zinc Phosphator was installed in 1983. It has a floor drain system that goes completely around the system in case of tank leaks or rupture. This drain system goes to secondary containment within the wastewater treatment area.

3) The wastewater system has been modified/expanded over the years to meet the needs of processes as they were expanded, replaced or modified. The batch treatment tank, etc, which was used prior to the recent upgrade was installed in 1983 along with the installation of the Zinc Phosphator.

4) The painting operation was installed in the mid 1970's and modified/expanded in 1983. The system is located in an enclosed building with operational personnel present during operation.

5) The Interior Hazardous Waste Accumulation Area was located inside the building on a concrete slab. Only de-watered filter press sludge, in 55 gallon drums, were accumulated in this area. The area was inspected by operational personnel on a routine schedule. Currently, a RCRA Closure Plan is being developed for this area.

6) The Exterior Drum Storage Area near southwest corner of the plant has been in use since mid 1989. Only dewatered sludges are accumulated on this concrete slab. Prior to this, this material was accumulated in the Exterior Drum Storage Area North of the painting building.

7) The Exterior Drum Storage Area to north of the Painting Building has been used since the installation of the painting system which was installed in the mid-1970's. This is a concrete slab.

8) The current Used Oil Storage Area was put in operation in April, 1990. This area is a concrete slab with a 6 inch concrete dike around the area. The used oil storage area was relocated due to the installation of new loading docks. The previous storage area was a concrete slab with a 6 inch concrete dike around it similar to the current one seen during your inspection. The initial installation of the used oil storage/management system is unknown.

9) Safety-Kleen Parts Cleaners are located inside the building on a concrete floor. We are not sure exactly when this was placed into service. Vendor records indicate that the parts cleaners were placed into service in 1978. Our records goes back to 1985.

10) The current Mineral Spirits Tank/Underground Line System was installed during the 1983 plant expansion. Prior to this time, solvent was purchased in 55 gallon drums. Weekly inventory and inspection of the tank and delivery line are conducted.

Dimensions/capacity and construction materials:

1) Mixing Tank: 304 Stainless steel, 3000 gallons
2) Clarifier: Carbon Steel , 4500 gallons
3) Filter Press Roll-off bins: Cardboard -42.5"L x 25.75"W x 24.75"H
4) Drying oven: Steel - 17.5 ft wide, 10 ft Ht, 145 ft long
5) Neutralization/Precipitation Tank - Polyethylene, 1,000 gallons
6) Flocculant Tank - Polyethylene, 400 gallons

PAINT SYSTEM WASTES

We do not have a copy of the 1988 RCRA Inspection Report; therefore, we cannot compare their description.

The paint line is normally cleaned-out at the end of every year. Dried paint which has accumulated on the "flow-coater" walls are peeled/scraped off the walls and placed in drums. These dried paint wastes are solid and sent to US Ecology. The last clean out generated 23 drums of dried paint waste. (Manifest 1/22/90 and Analysis attached).

On a daily basis dried paint waste is removed from various parts/locations of the system in order to reduce the build-up. This is also solid dried paint waste. This solid paint waste is placed in a drum which is located inside the paint building. The drum is kept closed during such temporary storage. Once full, it is place on a concrete pad located outside the north end of the painting building until shipped off site to US ECOLOGY as dried paint waste.

The paper under the drip lines are removed weekly. When removed, the paper and paint are dry and solid.

Small amounts of Sorbond are added to our dried paint waste (solids) as a cautionary measure.

The manifest of paint waste for 4/9/80 was for 8 drums of liquid solvent/paint waste and 20 drums of paint waste produced from an unsuccessful paint trial . The manifest weight for the petroleum naptha is 4211 lbs. This material was sent to Safety-Kleen for fuel blending.

The drying oven is a tunnel in which parts are heated to 375 F to dry as the parts are moved through by the monorail system. Yes, the monorail system serves the drying oven as well as the other components of the painting system.

As requested, attached are copies of manifests and analyses for the various types of waste generated by the paint system during the last year. The following are the various shipments and an explanation:

Manifest Date 11-13-89 (Safety Kleen):
Section 11 a - Non-Paint related waste - Non-hazardous oils
Section 11 b - Five drums of black paint that could not be utilized in the system due to quality reasons. D&L decided to dispose of it by fuel blending. Safety Kleen called it an F003 due to the presence of Xylene. However, this should have been designated as D001 since the Xylene was not a spent solvent but an ingredient of the paint.

Manifest Date 11-14-89 (Safety Kleen):
Section 11.a. - Non-Paint related waste- Non-hazardous oils
Section 11.b. One drum of black paint. Same as 11-13-89 above.
Section 11.c. One drum of silver paint that had become obsolete.

Manifest Date 12-28-89 (Safety Kleen):
Section 11.a. - Four drums of Paint/Solvent mixture that had become contaminated with water. Sent to Safety Kleen for fuel blending.

Manifest dated 1-22-90 (US Ecology):
Twenty three (23) drums of non-hazardous dried paint waste that was generated during the December cleaning of the paint system.

Manifest Date 4-9-90 (Safety Kleen):
Explained above.

ZINC PHOSPHATOR

Sludge from Tanks 5,6,and 7 have always been shoveled out. Due to increased emphasis on quality of the parts the frequency has increased during the past year or so.

To the best of our knowledge, zinc phosphate sludge was not stored in Storage Area "A" or "B".

Currently, approximately 1000 pounds (two drums) are removed per month from Tanks 5,6, and 7.

No, All drums present in the southwestern drum storage area are not zinc phosphate sludge only. The 13 drums of washer sludge are accumulated in this area.

No other tanks in the Zinc Phosphator or the Autophoretic System require cleaning out of sludge residues.

USED OIL STORAGE AREA

Due to the construction of the new loading docks, the used oil storage area was moved to its present location in April 1990. It was previously located on a pad with a 6 inch dike similar to the one observed during the inspection.

MINERAL SPIRITS TANK/PIPELINE SYSTEM

The original underground line was galvanized steel and was completely replace with PVC following the 1987 leak. Based on discussion with the individual present during the clean-up and pipe replacement, no other leaking areas were noted.

Inventory is conducted once per week.

PRE-PAINT WASHING SYSTEM

The wastewater is not diverted to the wastewater treatment system. There are no metals that need to be removed by the metals removal system that makes up wastewater treatment.

Sludge is cleaned from the system once per month and produces approximately 500 pounds or 1 - 55 gallon drum of sludge. Current analyses of the sludge is attached (two from ASI dated 7/19/90).

SAFETY KLEEN PARTS CLEANERS

There are one (1) 5 gallon parts cleaner and one (1) 9 gallon parts cleaner.

Manifests to Safety Kleen show that approximately 28 gallons (144 lbs) per month is generated with a high of 46 gallons (234 lbs).

WASTEWATER TREATMENT

Earliest records available indicate an agreement with the City to discharge being made during the early 1970's . The earliest Permit that this office has on file is dated 3-23-79.

Permit parameters have been exceeded in the past. Douglas & Lomason Company has worked with the City of Red Oak and has upgraded its wastewater treatment capabilities and modified production processes to eliminate problem.

The filter press sludge is currently packaged in drums. Prior to this, it was placed in cardboard bins and taken to the County landfill on a routine schedule. When stored outside, they were stored in the southwest storage area covered with plastic prior to going to the landfill.

Sulfuric Acid is used for pH adjustment.

Ca^{++} is added as $Ca(OH)_2$ to react with the phosphate and precipitate. This adds bulk to the zinc hydroxide precipitate which forms a denser sludge that settles out more efficiently.

WMA-1055 polymer from Novamax is utilized as a flocculant.

INTERIM STORAGE AREAS A AND B

The orientation of longest dimension is as follows:
Area A - East-West
Area B - North-South

If additional information is needed, please contact me at (404) 349-7000.

Sincerely,

DOUGLAS & LOMASON COMPANY

Raymond L. Osborne
Corporate Environmental Manager

Raymond L. Osborne

APPENDIX P

TELEPHONE CONVERSATION RECORD

ON

SEWER DISCHARGE PERMIT

TELEPHONE CONVERSATION RECORD

DATE OF CALL: June 13, 1990 TIME OF CALL: 3:35 pm

PERSONS INVOLVED:

1) Bill Haufle, WWTP - Red Oak

2) Sharon Martin, E & E/FIT

PROJECT TITLE: Douglas & Lomason PROJECT NUMBER: FIA0261RA

CLIENT: EPA

SUBJECT OF CALL: D & L WW discharge

RESUME OF CONVERSATION: I asked if they ever have problem w/ their discharge. He said yes w/ zinc (total zinc). He said they used to have a problem quite a bit, but now it's only about once every other month. He said they have D & L monitor daily now, so they quite often catch the problem and have it corrected before WWTP notifies them in writing. He said D & L is real cooperative. He said they haven't had a Cr problem for quite a while -- a year or 2. He's been there 12 years and didn't know when they started monitoring D & L since they were doing it when he started. He said they monitor for Zn and Cr weekly now (monthly about 2 years ago) and for suspended solids every 3 months.

SIGNATURE: Sharon P. Martin

CC: